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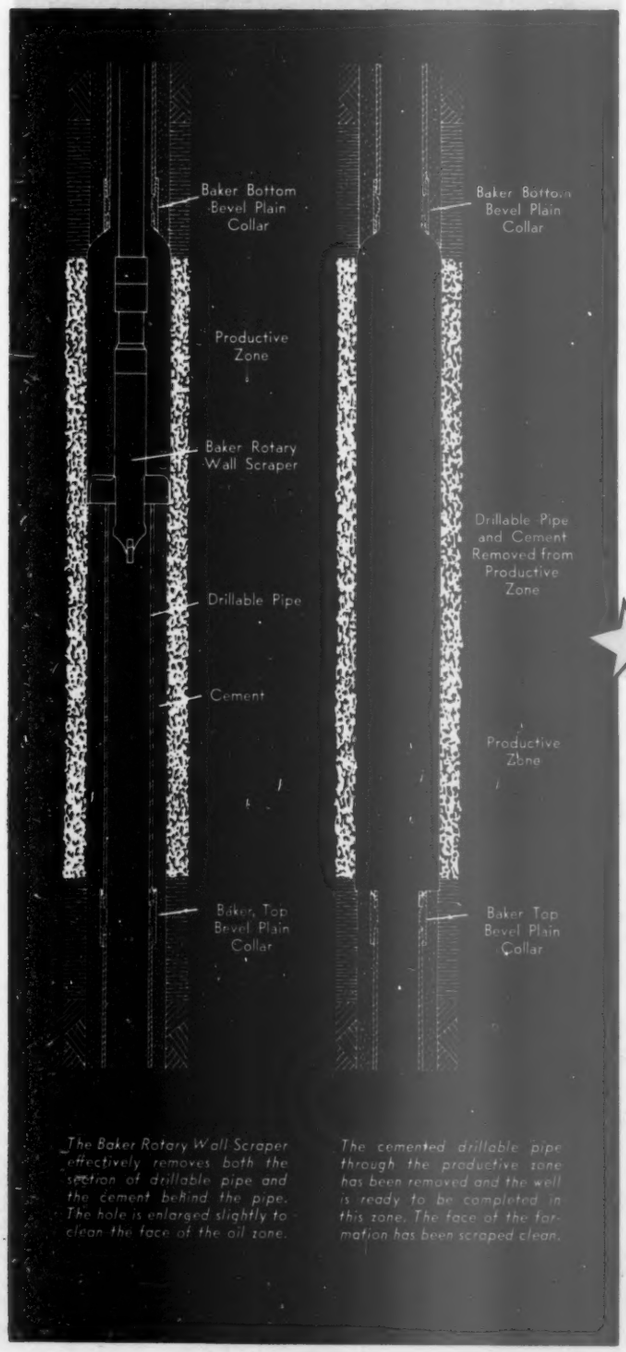
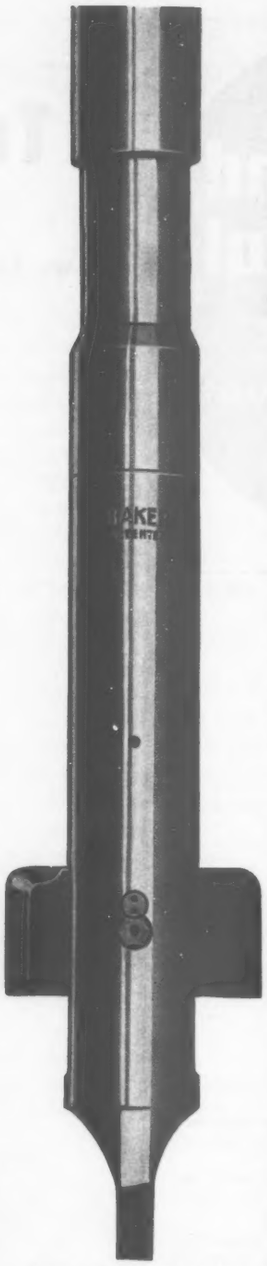
REMOVING SECTIONS OF DRILLABLE PIPE

One of 12 Practical Field Applications For The BAKER ROTARY WALL SCRAPER



The Baker Rotary Wall Scraper effectively removes both the section of drillable pipe and the cement behind the pipe. The hole is enlarged slightly to clean the face of the oil zone.

The cemented drillable pipe through the productive zone has been removed and the well is ready to be completed in this zone. The face of the formation has been scraped clean.



See pages 252-258 of the Baker Section of the 1940 Composite Catalog

Send for Baker Broadcast No. 19

BAKER ROTARY WALL SCRAPER

BAKER OIL TOOLS, INC.
P. O. Box 127, Vernon Station
LOS ANGELES, CALIFORNIA
HOUSTON, TEXAS
NEW YORK, N. Y.

The BAKER ROTARY WALL SCRAPER...

is a simply constructed, versatile tool that Safely and Economically performs a number of important field applications. While designed primarily to enlarge the walls of an open hole, it has proved extremely efficient for several other types of applications . . . one being the removal of sections of drillable pipe such as shown in the accompanying illustration.

TWO TOOLS IN ONE

WALL SCRAPER — 2 TOOLS IN — WALL SAMPLER

Another application for the Wall Scraper that does not come within the scope of "hole enlarging" is that by substituting special Sampler Blades for the regular Scraper Blades, converts the Wall Scraper into a Wall Sampler. This efficient device will take actual cores from the side walls of any uncased hole. Here is a "TWO TOOLS IN ONE" feature that means DOUBLE VALUE for your money.

Safety and Service

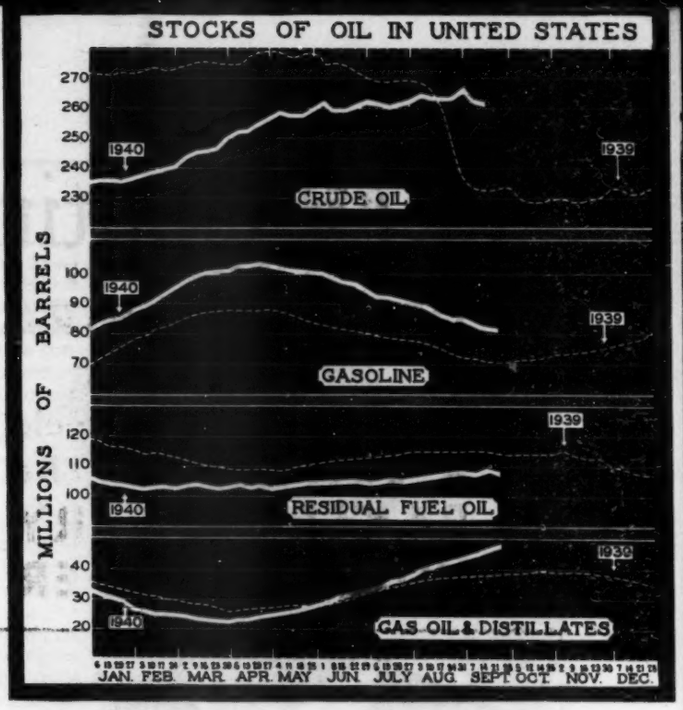
The Safety and Efficiency of the Baker Wall Scraper has been ably demonstrated in thousands of successful runs made in oil fields throughout the world . . . under varied adverse operating conditions . . . and yet to our knowledge, this tool has never failed to come safely out of the hole with hole in condition for further operations.

Important Applications

Enlarging Holes for Casing
Cleaning Up Oil Sands
Setting Liners
Setting Cement Plugs
Bottlenecking for Cement Jobs
Removing Sections of Drillable Pipe
Water Shut-Off Tests
Sidetracking
Straightening Holes
Fishing Jobs
Enlarging Holes for Gravel Packing
Side Wall Sampling (by converting Scraper into Baker Wall Sampler)

Trends

Stocks and Exports Important Factors In October Demand



IN projecting the October demand for crude oil and products this week, the Bureau of Mines continues its conservative position as to the outlook over the balance of the year. Its estimated demand for domestic crude oil next month is 3,580,000 bbl. daily, a decrease of 1 per cent compared to September and 6 per cent under the actual demand for October 1939.

CRUDE PRODUCTION *3,630,610 bbl. daily average—down 19,930 bbl. One year ago 3,676,432 bbl.*

CRUDE STOCKS *262,475,000 bbl. as of September 14—down 241,000 bbl. One year ago 233,016,000 bbl.*

GASOLINE STOCKS *82,960,000 bbl. as of September 21—down 340,000 bbl. One year ago 71,440,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *108,191,000 bbl. as of September 21—down 944,000 bbl. One year ago 114,637,000 bbl.*

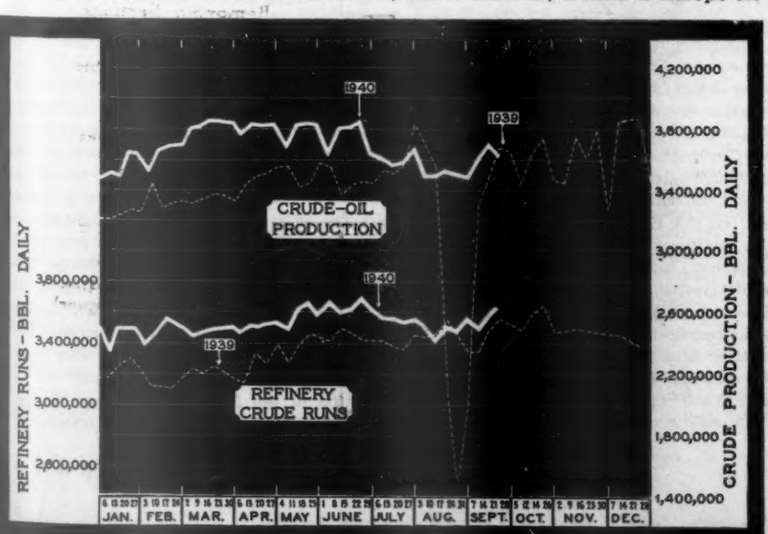
GAS OIL AND DISTILLATES *47,163,000 bbl. as of September 21—up 515,000 bbl. One year ago 37,967,000 bbl.*

REFINERY RUNS *3,680,000 bbl. daily week ended September 21—up 100,000 bbl. One year ago 3,570,000 bbl.*

The bureau's report makes clear the current conditions on which the October estimates are based, many of which are indicated by the graphs and tabular data appearing on this page. It points out that while the domestic demand for most products is satisfactory with a continued heavy gasoline consumption assured, the loss of export outlets and increased inventories of certain products emphasize the necessity of maintaining crude-oil production and refinery operations at the levels recommended.

In regard to exports it is agreed that no relief is in prospect so long as the blockade of the most important markets of Continental Europe continues. This development, while important to this country, is far more significant to the oil supplies of northern part of South America including the refineries of the Netherlands West Indies which, before the war, looked to Europe for most of their outlets. This is resulting in an increasingly keen competition for all markets outside this country.

The inventory situation not only in the case of gasoline but the intermediate and residual products is outlined in the bureau's report for October. It suggests that with reduced refinery operations in the final quarter of this year, it may be possible to keep gasoline stocks at approximately present levels and thus correct the present excess accumulation by the end of the year. During the final quarter of last year, 12 million barrels of gasoline were added to storage.


REFINERY RUNS - BBL. DAILY
CRUDE PRODUCTION - BBL. DAILY
1940
1939
CRUDE-OIL PRODUCTION
REFINERY CRUDE RUNS
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

DAILY AVERAGE PRODUCTION FOR WEEK

	Sept. 21, 1940	Bur. Mines Sept. est. of demand	September state allowables	Sept. 14, 1940
Arkansas	72,550	69,700	74,595	73,425
California	610,750	593,000	571,000	637,250
Eastern states	103,800	101,200	.....	102,700
Illinois	361,317	430,000	.....	364,128
Kansas	201,700	170,700	190,000	194,600
Louisiana	284,640	274,700	274,854	285,435
North Louisiana	*65,490*	.....	.....	*65,385*
Louisiana Gulf Coast	*219,150*	.....	.....	*220,050*
Michigan	50,250	55,700	52,000	50,004
Mississippi	26,285	9,700	.....	25,850
New Mexico	99,080	105,300	100,300	102,490
Oklahoma	402,350	397,000	390,000	412,925
Rocky Mountain states	101,240	97,000	.....	93,620
Texas	1,316,648	1,320,000	1,369,443	1,308,113
East Texas	*374,848*	.....	.....	*374,924*
West Texas	*229,875*	.....	.....	*228,145*
North Central Texas	*127,600*	.....	.....	*126,300*
East Central Texas	*74,775*	.....	.....	*78,200*
Texas Panhandle	*78,250*	.....	.....	*76,471*
Gulf Coast Texas	*324,350*	.....	.....	*319,250*
Southwest Texas	*106,950*	.....	.....	*104,823*
United States	3,630,610	3,624,000	.....	3,650,540

It is also pointed out that stocks of gas oil and distillates are much larger than they were a year ago. This does away with the incentive for a high rate of refinery operations and should simplify the adjustments in gasoline yields and total output.

While market conditions are not discussed in the bureau's October projection, price developments of the past month also stress the need of keeping operations at least as low as those recommended by the Government. There have been important price declines in gasoline quotations at many points with eastern conditions particularly weak. The development in which gas oil and distillate production in several refining centers has far exceeded the early fall demand for these products has brought price concessions at a time when sellers had hoped for a strong market. So far there has been no outstanding reflection of this refined-market situation in crude-oil developments.

Ickes Continues Secret Meets With Oil Men In Washington

By HENRY D. RALPH

Left: Charles F. Roeser, president, Roeser & Pendleton, Inc., Fort Worth, Tex. Below: A. C. Mattei, president, Honolulu Consolidated Oil Corp., Ltd., San Francisco, Calif. Below, right: Paul G. Blazer, president, Ashland Oil & Refining Co., Ashland, Ky.

WASHINGTON, D. C., Sept. 24.—Regulation of the oil industry to an extent that may transcend that of the petroleum code under the illegal N.R.A. is under discussion at Washington. The conferences between Secretary of the Interior Harold L. Ickes and a selected group of oil men were resumed in Washington September 23 and 24 after a week's recess in which, it was understood, the individuals attempted to consolidate their views. The cloak of secrecy was drawn tightly around the conferences held so far in Washington.

A quartet of oil men went to Washington at the invitation of government officials. None is currently representative of any organized group and all understand, they have let it be known here, that they have no authority to commit the industry and that they represent only their own individual positions. The four men were selected by Secretary Ickes, his superiors or advisers, as representing diverse interest and views in the industry.

Refusal of Secretary Ickes to reveal his most recent discussions with oil men when questioned extensively at a press conference September 19 has given rise to rumors replete in their speculatory coverage. Definitely known to have participated in the oil conferences with Secretary Ickes on September 16 and the early part of this week are:

Charles F. Roeser of Fort Worth, Tex., president of Roeser & Pendleton, Inc., former president of the Independent Petroleum Association of America and a proponent of federal control; Walter C. Teagle, former president and chairman of the Standard Oil Co. (New Jersey), largest integrated oil company in the world; Paul G. Blazer, president of the Ashland Oil & Refining Co., Ashland, Ky., and a member of the Planning and Coordinating Committee which administered the petroleum code in the days of N.R.A.; and A. C. Mattei, president of the Honolulu Consolidated Oil Corp., Ltd., of San Francisco, a California and southwestern producing unit. Mr. Mattei was active in the abortive effort to enact a California conservation law in 1938.

Members of the Petroleum Conservation Division, a unit of the Interior Department directed by George W. Holland, attended the September 16 conference. The division was not represented in the September 23 and subsequent meetings.

Origin of the conference is just as mysterious as the nature of discussions. The call ostensibly was issued by Secretary Ickes or by the Conservation Division, although it is rumored that the germ for the meeting was planted in Washington by interests outside the Government. Individuals with personal interests have advised with officials on oil matters in recent months.

Hints were received that the proposals thrashed over may require additional legislation to bring them to fulfillment and that any attempt at such action would be delayed until after the November election. Speculation that the conferences were held to consider some new angle of the Cole bill appeared baseless after the secretary denied that this pending measure was on the agenda.

At his press conference September 19, Secretary Ickes refused to discuss the secret meetings in any way, adding that if the oil industry is puzzled he is sorry. Replying to specific questions, the secretary said he would not say whether or not the conference had to do with national defense, but he did say that it did not involve possible federal control of oil in event of war, did not involve the pending Cole bill for federal regulation of conservation, and did not involve the proposed Department of Justice divorcement suit or the report of the Defense Commission on that suit.

The proposal discussed at the September 16, 23 and 24 sessions is not federal control in a complete sense, it was understood through usually reliable sources in Washington. Involved is a certain amount of coordination of the industry, particularly in refinery operations. The secretary feels, it was said, that performance of the industry is not entirely satisfactory and that his office is in position to assist. The suggestion includes a voluntary coordinating plan under direction of an industry committee with the secretary and probably other federal officials as members to represent the public interest. There was speculation that Mr. Roeser would accept any invitation to head the segment from the industry on any coordinating body such as was reported discussed in the meetings.

Intervention of the federal Government in petroleum regulation was first sponsored openly by

Mr. Roeser at a meeting of the I.P.A.A. directors in Oklahoma City, Okla., July 25. The Roeser recommendation that extension of federal control be invited was entirely ignored in resolutions adopted by the board at that time. After suggesting that a conference of oil-producing states be held in Washington to work out a control measure, Mr. Roeser outlined the following four-point program:

1. Require all oil-producing states to join the interstate oil compact.
2. Require states to produce not more than demand estimated by the Bureau of Mines.
3. Require refiners to post prices and prevent them from selling at discounts.
4. Regulate oil imports which are blamed for part of the industry's troubles.

Reports that the views of Mr. Teagle and Mr. Roeser expressed at the Washington conferences were not in harmony would indicate that refinery control is one of the points receiving particular consideration.

Reaction of the four oil men attending the Washington conferences was that after the industry's experience in the Madison case there would be opposition to any plan unless written sanction were given by the attorney general in form which would bind future administrations against antitrust prosecution.

The new proposals grow out of conditions which Secretary Ickes feels may be acute in war or defense emergency, particularly when the Navy has

WALTER C. TEAGLE

Former president and chairman of Standard Oil Co. (New Jersey)

its Atlantic fleet in operation and new Atlantic bases established which will increase its demand for oil at eastern ports. The proposal is broader and with a longer view than current procurement studies and plans of the Defense Commission, but it falls considerably short of the scope of activities of the oil-industry committee during the World War.

Substantial claims have been made by practically every fact-finding group in the industry that it is thoroughly qualified to meet any emergency demand for petroleum products. Complete adequacy of the industry to meet defense or other emergency demand without extension of regulation was most recently expostulated by Dr. Robert E. Wilson, technical adviser on petroleum for the National Defense Commission, in a letter to the Interstate Oil Compact Commission read at Oklahoma City August 23. W. R. Boyd, executive vice president of the American Petroleum Institute, who addressed the compact meeting at the same time, elaborated on the industry's preparedness to meet any contingency in demand.

Secretary Ickes is said to hold that a degree of long-range planning and coordination can and should be accomplished by the industry with federal assistance. His is not a complete plan for war-time operation and he does not consider it federal control but some of the oil men fear it may be a step in this direction. Neither does the plan necessarily involve industry acceptance of the pending Cole bill for federal regulation of conservation, a measure against which the oil business presents a strong front. Pressed for the second time September 23 for details of the discussions with Secretary Ickes, all four—Messrs. Teagle, Roeser, Blazer and Mattei—said they could not discuss it in any way and declined to indicate whether they would meet again. But they were back in session again September 24.

One of the preliminary reports that the conferences in Washington would deal with the monthly demand forecast of the Bureau of Mines and complaints that it is based too much on past performance of individual states has been completely discounted. Officials of the petroleum-economics branch of the bureau were not present at either of the conferences and claimed to have no knowledge of them.

Many other rumors apparently were unfounded by the personnel of the conferring group. These included speculation that the conferences dealt with the desire of the Navy Department to claim title to submerged oil lands; with imports from Venezuela and Mexico; with Mexican expropriation of American owned oil properties; with the operation of the interstate compact; and with virtually every other subject of current interest in the industry.

Absence of Army and Navy department representatives and of Defense Commission officials from the conferences virtually removed preparedness as a topic of more than incidental interest.

Roosevelt Familiar With Conferences

WASHINGTON, D. C., Sept. 24.—President Roosevelt is familiar with the secret conferences which Secretary of Interior Ickes has been holding with four oil men. At the press conference today the president admitted having a conference with C. F. Roeser, Fort Worth independent operator, who has been attending the conferences.

Asked if antitrust matters had been discussed in his conference with Mr. Roeser, the president's reply was affirmative and he referred the questioners to the attorney general for further information. This statement was interpreted as meaning that the president is participating in the decision as to whether the proposed prosecution of the antitrust suit against oil companies involving the divorcement of pipe lines and marketing should be started at this time by the Department of Justice.

It has also been suggested that Mr. Roeser may have discussed with the president the matter of antitrust immunity for a plan of voluntary coordination of the oil industry as has been suggested by Secretary Ickes.

It is believed that Attorney General Jackson will announce his decision in regard to the antitrust suit this week. Last week the National Defense Advisory Commission in a report to the attorney general indicated that prosecution of the suit at this time might hamper its program of defense.

Wiess Continues Attack on Texas Allowable Policy

AUSTIN, Tex.—Adoption of yardsticks in the application of proration was urged by H. C. Wiess, president of Humble Oil & Refining Co., in a second letter to the Texas Railroad Commission last Friday, protesting against its policy of granting special allowables. He particularly criticized an alleged practice of considering special demands of some oil fields without, at the same time, considering the situation for all other pools producing the same grade of oil. He feared serious consequences unless the commission changes its policies.

Mr. Wiess addressed a similar complaint to Chairman Lon A. Smith the previous week (The Oil and Gas Journal, September 19 issue, p. 70) criticizing the commission's policy of granting allowables without holding hearings and suggesting that the allowable distribution among fields be revised. In his second letter he asserted the special allowables granted some areas were "not for the purpose of equalizing production but aggravated the condition of inequities already existing by giving favored pools still higher allowables than they previously enjoyed."

Continuing, Mr. Wiess stated:

"For the commission, without hearing or with hearing upon particular fields, to grant exemptions from shutdowns or special allowables to individual fields on a showing of additional market demand for such fields creates a discrimination in their favor, as all the market demand for crude of a given grade is made up of the demand for such crude from all fields producing such grade, and it is not reasonable, but is unreasonable and discriminatory, to consider the special demands for such fields alone without at the same time considering the situation for all other fields producing the same grade of oil.

"In Subsection 6 of Article 6049 D, Vernon's Texas Civil Statutes, it is provided that in allocating or ascertaining the reasonable market demand for the whole state one pool shall not be discriminated against in favor of any other pool, and it is further provided that the commission shall ascertain the reasonable market demand of each such respective pool as the basis for determining the allotments to be assigned each, to the end that such discrimination shall be prevented.

"If the purchasers are to be permitted to select the fields producing a given grade of oil from which they are to purchase their demands, and the commission grants allowables in accordance with such demands without considering other fields producing the same grade of crude, the effect will be for a few favored fields to be credited with the market demand for the given grade of crude, leaving other fields without markets. This situation would enable the purchasing companies to meet their demand in a limited number of fields, and leave the independent producers without market or with less than their share of the market."

SPARKS . . . FROM THE NEWS

PACE SETTER: Hewitt, one of Oklahoma's older fields, is the busiest pool in the state today, as operators go about the matter of developing an extension area recently discovered between Hewitt and Healdton.

CONCERN: Oil men are not a particularly suspicious lot. But they are endowed with a high degree of intellectual curiosity, which accounts for their concern when meetings affecting their welfare go on behind closed doors, with the press rigidly excluded.

INDISPENSABLE: The tenderest meat from the toughest critters derives from a new packing process which combines the readily controlled heating properties of petroleum and the cleansing effect of violet rays. It is said the process takes a few days to do what weeks of curing did before. Another industrial accomplishment for petroleum.

MIGHTIER THAN THE SWORD: Diplomatic and economic maneuvers have delivered Rumanian oil resources to the Axis Powers undamaged. In World War 1, Germany rode roughshod through Rumania only to find wells and refineries rendered practically useless. Theoretically, the Reich can now obtain more than 80,000 bbl. daily from pro-Axis Rumania.

DILEMMA: Attorney General Jackson occupies an unenviable spot today, what with influential congressmen demanding one thing and an articulate Defense Commission advocating a contrary stand.

CELEBRATION: El Dorado, Kans., is busy putting on its Sunday best to welcome visitors attending the celebration commemorating the 25th anniversary of oil discovery. Old timers will be in their glory.

FORTHRIGHT: Louisiana's popular new conservation commissioner promises a more rigid check on the movement of oil as a means of eliminating hot-oil production. He speaks as though he means business.

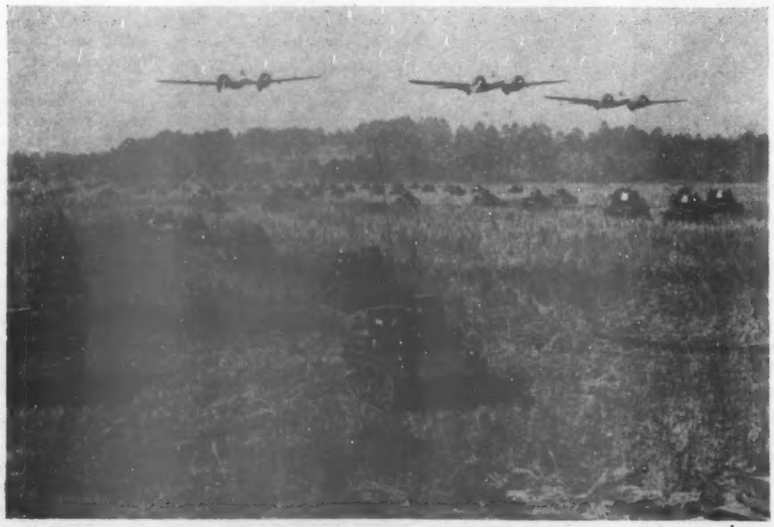
MESS OF POTTAGE: If the industry yields to the most recent efforts to ambush it into federal control it may find that the barter medium is a mess of pottage. Creeping leads to walking and gains of an inch whet the thirst for a mile.

TAKES TIME: When catalytic polymerization to make superior motor fuels was announced recently the older research chemists called to mind the quiet filing of a patent application 11 years ago this month covering basic phases of the operation.

AN AWAKENING: A light begins to dawn as reservoir pressures decline at Tinsley, Mississippi, with flowing wells rapidly becoming pumpers. To conserve, Mississippi operators are reported to have agreed to reduce daily production from 25,000 bbl. to about 8,000 bbl.

SIGNIFICANT: The current Foreign Minerals Quarterly published by the Department of Interior and carrying the name of Harold L. Ickes, secretary, includes the following statement regarding the operations of the government-owned oil company in Argentina: "Although this company under government ownership and operation has made progress, it has nevertheless been influenced by local politics and favoritism which, as in most government-operated industries, results in lower efficiency and higher costs than those managed by private organizations where competition is the controlling factor."

TANK FUELS AND LUBES COMMAND ATTENTION . . .



Acme

Scenes such as this at Fort Benning, Ga., will be enacted at Army posts more frequently than ever as the nation's defense forces get into high gear with their training maneuvers. Army tanks are posing a special problem of fuels and lubricants, according to an Army ordnance expert, speaking before the N.P.A. meeting at Atlantic City last week. (Page 27)

Above: Panoramic view of El Dorado field at the height of its early development. Left: An El Dorado well, thought to be one of the famous Trapshooter wells, good for 10,000 to 20,000 bbl. daily

El Dorado Prepares for 25th Anniversary Of Oil Discovery

By DAL DALRYMPLE

EL DORADO, Kan., Sept. 24. — The old timers are assembling again in El Dorado. Many of the men who thronged this prairie town by the multiple thousands back in 1915-16-17 to make Kansas' biggest boom are back again to celebrate the twenty-fifth anniversary of the discovery of oil in the El Dorado field.

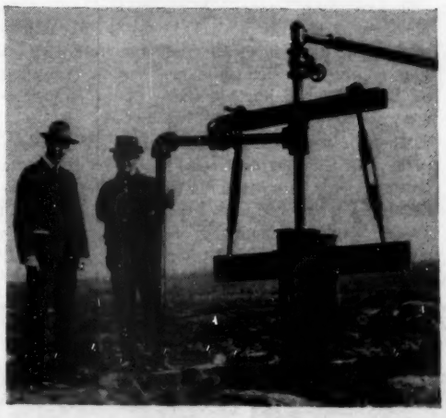
Citizens of El Dorado will be hosts to the visiting oil men on September 29 at an all-day fiesta. The program will include speeches by Herbert R. Straight, president of the Cities Service Oil Co., Bartlesville, Okla., who located No. 1 Stapleton, the discovery well in the El Dorado field; and W. G. Skelly, president of Skelly Oil Co., Tulsa, who started one of the first refineries at El Dorado. The monthly proration meeting of the Corporation Commission will be held here, and there will be a meeting of the Kansas chapter of the A.P.I. A monument will be unveiled near the site of the discovery well. There will be musical programs, shows, refinery tours, and programs, a barbecue dinner and other affairs of various kind to entertain the visitors throughout a busy day.

But mostly, for the old timers, it will be a day of reunion, when they can renew old acquaintances and talk over exciting events connected with the discovery and early development of this greatest of all Kansas oil fields.

They started looking for oil between El Dorado and Augusta, in Butler County, more than 60 years ago, if legend is based on fact. The story has it that a group of Spiritualists, acting on the advice of an Indian spirit known to them as Myantic, dug the first hole, seeking coal or oil. Working in a hole 8 ft. in diameter, they went to a total depth of 75 ft., quitting, as many prospectors since then have quit, when funds were exhausted.

Date of the first bona fide test to be drilled for oil is in dispute, one old timer saying it was in 1882, another insisting it was in 1887. A group of El Dorado citizens organized the El Dorado Prospecting & Mining Co., and drilled that first test in Riverside, on El Dorado townsite. At 1,300 ft. they found an abundance of salt water, but no oil or gas. That ended that.

Other tests were drilled intermittently throughout Butler County in succeeding years, and gas was found at Augusta in 1906, oil in March 1914, when the county's first commercial oil producer was completed.



They located No. 1 Stapleton, El Dorado discovery. H. R. Straight, now president of Cities Service Oil Co., and F. L. Frankenberger, then company superintendent

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Oil and gas at Augusta and not at El Dorado? It was unthinkable. Patriotic El Dorado folk voted $20,000 bonds with which to explore for gas near their town. That was back in 1909. The first well was drilled within the city limits to the tune of $8,000 of the bond money, and no gas. Again, spurred by the discovery of oil at Augusta, the El Dorado boosters decided to spend the remaining $12,000 in a search for oil in 1915. A test 5 miles west of town was drilled to 2,825 ft., and

(Continued on Page 41)

Pipe yards at Oil Hill, the oil-field town built in the El Dorado district by the Empire companies

War's Effect on Industry Chief Topic at N.P.A. Meeting

By J. P. O'DONNELL

ATLANTIC CITY, N. J., Sept. 20.—The war—its past, current and prospective effects on industry, particularly oil—was the principal subject of discussion by speakers who addressed the thirty-eighth annual meeting of the National Petroleum Association here this week. Members attending the meeting, which had a record advance registration of 360 and an actual attendance of approximately 400, heard the subject of the war attacked from a dozen different angles by as many outstanding speakers.

Activities and personnel of the National Defense Commission were discussed by W. Averell Harriman, a member of the commission, who in the first talk by a member outside of Washington was outspoken in his praise of oil. In oil, he said, "there is no bottleneck. We have ample storage of material in the ground where it belongs and where it can be readily extracted when needed."

There would be a shortage of 100-octane gasoline, Mr. Harriman said, but blamed this on current demand which is only one-half of productive capacity. Storage of 100-octane gasoline is being resorted to in an effort to encourage expansion of productive facilities, he declared.

Since oil is so important to the Army, it is encouraging, he continued, to know that we are so well prepared here. The only adverse possibility, according to Mr. Harriman, is in distribution and in this connection the commission is planning storage points and is studying the building of more pipe lines.

In his conclusion Mr. Harriman recalled France's lack of unity of aim and called upon industry to lead in determination of what our objectives shall be. He urged speed so that we would not have to act, like England, in the extremities of danger.

In the opening address, the association's president, N. H. Weber, of the Pure Oil Co., expressed confidence that "no national emergency will arise which will require the Government to assume either control of production or prices in any important industry." He also voiced the belief that "we may expect reasonably profitable prices when the normal increases in domestic demand are further stimulated by the war and, indeed, the post-war requirements."

Mr. Weber also discussed the industry's preparedness, its capacity to produce and to distribute. "Pipe lines are ideally suited to protect the wartime as well as the peacetime requirements of our country," he said. "In some areas new pipe lines will undoubtedly be needed. They will be built and built quickly by the oil companies if the Government wisely encourages their construction."

Effect on International Trade

War effects on international trade were discussed by Eugene P. Thomas, president, National Foreign Trade Council. The role of oil in international trade is a most important one, he said, since the United States supplies about 45 per cent of the world market with exports averaging about $335,000,000 annually, more than 10 per cent of our total. Oil is a powerful factor in retaining and extending America's connections with the markets of the seven seas, he said. "It may be truly said that American trade has followed the flag of the American tanker. Where American oil is established abroad, there follows a permanent demand for American products."

Much of our foreign investment is in jeopardy today, Mr. Thomas declared, "owing to expropriation policies which are indistinguishable from confiscation." He said that the National Foreign Trade Council recognized this and has recommended "that our Government seek to embody this doctrine (that property may not be expropriated without adequate concurrent compensation) in treaties with other nations."

Mr. Thomas said that since between them the United States and Great Britain had 40 per cent of the world trade against German and Italian combination of 12½ per cent, the inclusion of Great Britain in the pan-American democratic economic front gave it a preponderant position. It is apparent, therefore, he concluded, "that there is no valid ground for a defeatist outlook in the new world which we hope will arise from the ashes of this war."

Cary R. Wagner, chief chemist and chairman of the refinery control board of Pure Oil, criticized Pennsylvania operators for having "too long been trying to justify ourselves in our own eyes." He pointed to the slow gain in consumption of aviation lubricating oils—from 11 bbl. per day in 1926 to 109 bbl. in 1938—and to the decline in automotive consumption per miles traveled as an index of the future and called for "an adequate research program devoted to the problem of finding out what is in Pennsylvania crude and what it is good for."

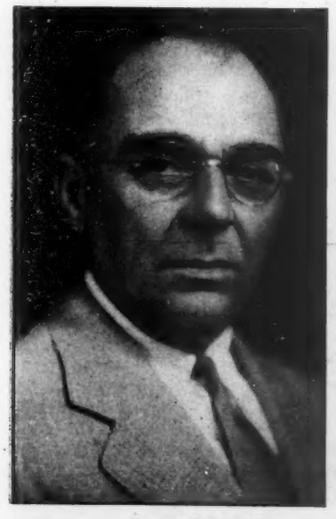
"The immediate position of the Pennsylvania industry, due principally to loss of export markets, is undoubtedly serious. Production and refining, although curtailed, are being carried on at substantial losses. However, the longer view indicates a brighter picture. There are more reasons for hope than for fear. There is a need for intelligent efforts rather than cause for defeatism, for active research than blind devotion to the past. Such objectives should revivify and invigorate the Pennsylvania industry, should give it the basis for a long period of usefulness to the public in the future comparable to the industry's record in the past."

Robert H. Hinckley, assistant secretary of the Department of Commerce, spoke of the rapid advance of civil aeronautics under the stimulus of the government-sponsored program of private pilot training. One result, he said, has been to increase gasoline consumption in private flying from an almost unchanged annual total of 10,000,000 gal. to 16,000,000 gal. in 1939 and substantially greater quantities in 1940.

He viewed as one of the war duties of the oil industry the maintenance of supplies at strategic points. While the possibility of abnormal demand for aviation gasoline exists it might be met by increasing the processing equipment or by storage, but he preferred what he termed the simpler expedient of storing blending agents. Mr. Hinckley also urged standardization of gasoline specifications and said that the Civil Aeronautics Authority has adopted gasoline of 100, 91 and 73 octane as determined by the aviation method as standard.

Ray Tucker, Washington newspaper correspondent, said that the destroyer-naval-base deal "probably means we inherit a war which we don't want . . . technically we are at war, we are not neutral, we are merely nonbelligerent." Mr. Tucker

ALL ELECTIVE OFFICERS REELECTED AT MEETING . . .



N. H. WEBER
President

C. L. SUHR
Executive vice president

H. A. LOGAN
First vice president

gave some confidential information on our military equipment to show that we can give Great Britain only moral support and said that our Army is "on a par with the Polish Army which Hitler rolled up in 18 days." He approved the destroyer-bases deal since it offset our one-ocean-fleet weakness but at the same time said odds against invasion are 100 to 1 since it would require from 10 to 14 tons of shipping to transport each fully equipped soldier from Europe to this continent.

The atmosphere of war carried into the Department of Taxation meeting at which A. B. Chapman of Alvord & Alvord, Washington, spoke on the excess-profits tax and taxes for national defense. In the former he saw grave danger of business being taxed on its profits from normal business activities at the extraordinary excess-profits-tax rates and said that the latter depend on the extent to which national income can be increased. He criticized the linking of the excess-profits-tax bill to amortization relief and also the lack of time given to drafting that highly complicated bill.

John M. Dressler, of the Standard Oil Co. of New Jersey, in a talk before the tax group, said: (1) Prospects of having the lubricating-oil tax applied to reclaimed oil are uncertain; (2) two states, Pennsylvania and Delaware, have agreed, with regard to sales under cost-plus contracts, to accept exemption certificates in lieu of the tax; (3) the Bureau of Internal Revenue interpretations of the pipe-line revisions might be altered by the probably different decision that would be forthcoming in another Pan American case trial in a different court. He added that the lubricating-oil tax is the cause of 75 per cent of the industry's tax troubles.

Another speaker who addressed the general session was Joseph E. Pogue, vice president of the Chase National Bank. Mr. Pogue's paper, reprinted in last week's issue of The Oil and Gas Journal, upheld the character but criticized the performance of integration.

Three new members were added to the association's board of trustees: C. E. Foster, Cities Service Oil Co.; R. E. Ryerson, Tide Water Associated Oil Co., and Paul Ryan, National Refining Co. All elective officers were reelected: N. H. Weber, president; C. L. Suhr, executive vice president; H. A. Logan, first vice president; Otto Koch, second vice president; Fayette B. Dow, general counsel; H. G. Eaton, secretary, and G. B. Hunter, treasurer. R. A. Wotowitch of New York City, a former member of the board of trustees, was made an honorary trustee.

Dr. Cary N. Wagner, chief chemist and refining manager, Pure Oil Co., addressing N.P.A. meeting

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Army and Navy Spokesmen Stress Standardization Need

MILITARY and naval needs in the line of fuels and lubricants were discussed by representatives of the branches of the nation's armed forces at the National Petroleum Association's department of manufacture meeting. The one point stressed by each of the four speakers was a great need for standardization both in fuels and lubricants.

Lt. Col. Raymond Marsh, of the U. S. Army ordnance department, listed the tank as the only ordnance department type of vehicle that posed a "strictly special problem of fuels and lubricants." This is due to the peculiar installation and employment of the power unit. All tanks are equipped with radial engines, he said, of from 260 to 1,000 hp. and though they have a special transmission, employ controlled differential and take special design suspension, the lubricating problem has been satisfactorily solved. Aviation-type lubricants are used and only a few special lubricants are needed.

The fuel situation is not so happy, Lieutenant Colonel Marsh said, for radial-type engines require in some instances 82 and in others 92-octane gasoline which is not always readily obtainable. For obvious reason he said that the department would like to use fuels that are readily obtainable at roadside stations. It could do so, he continued, by reducing the compression ratio but that would not only contravert the trend in engine design but would also result in a power loss of 8 per cent.

Diesels have been tested and found satisfactory, Lieutenant Colonel Marsh said. Two types of radial diesels are used in tanks, 1,020 cu. in., 220 hp., and 1,400 cu. in., 400 hp., and tanks using the former have been contracted for. Greater cruising radius on the same fuel volume is the major of several diesel advantages and both suitable fuels and lubes are readily obtainable.

While lubricating problems in tanks have been obviated by frequent changes, no one lubricant has been found that would provide more than 25 hours' service, the one serious criticism of the use of diesel power for tanks. However, Lieutenant Colonel Marsh foresaw greater use of diesels in military equipment.

Col. R. N. Atwell, of the Motor Transport Division of the Army, emphasized the factor of standardization mentioned briefly by the other speakers. He cited the transport division's adoption of five standard types of all-wheel-drive trucks and concluded that the standardization of fuels and lubricants naturally follows.

However, the trends in fuels and lubricants has been just the opposite, he said, and pointed out that seven different kinds of motor fuel were required at the recent Plattsburg maneuvers. He criticized the fact that the recommendations of manufacturers, designers and engineers often all varied. In an instance where one manufacturer recommended gasoline of a minimum of 68 octane it was found that fuel of that grade was completely unsatisfactory and it was also found that straight mineral oil, after a break-in period could adequately lubricate a hypoid gear for which special lubes were recommended. He also predicted greater diesel use since it would halve fuel requirements and said that one brigade could drop eighteen 2½-ton motor-fuel-supply trucks if diesels were used.

While lubricating-oil demands of the Motor Transport Division are varied, there has been no instance of failure due to the quality of the lubricants, he said. The only difficulty is encountered in cold starting though the many types of lubricants required greatly complicate the supply situation. As a solution he suggested the development of two lubricating oils, one summer and one winter, and then the assignment to manufacturers the problem of building an engine that would operate on them. He credited frequent changes—from 500 to 1,000 miles—with accounting for lack of troubles. As a great need of the army he listed an all-purpose fuel and one or two lubes instead of many and called upon the oil industry and automotive industry for assistance.

Lt. Comdr. W. C. Latrobe, of the U. S. Navy's Bureau of Ships, discussed the variety of the petroleum needs of the Navy and said that since the modern man-of-war represents the utmost in engineering skill, fuels and lubricants of the highest quality are essential to meet the tough requirements of service over days and weeks. Design trends indicate that new and even more severe requirements will be placed on fuels and lubricants, he said.

Regarding fuels, Lieutenant Commander Latrobe said that fuel oil today must meet stability and compatibility requirements. Bunker C fuel is definitely undesirable for combatant ships, he said, and while there is only a relatively small amount of Navy-grade fuel readily available, ample quantities could be made available quickly. He said that Navy lubricating oils are evaluated by the work-factor methods with tests being made on an endurance machine.

Robert W. Kerley, of the U. S. Army Air Corps, also discussed the subject of standardization and said that the services have reached an agreement on fuels and have reduced the number of approved fuels from 20 to a maximum of five. With regard to lubricating oils, he raised an old problem of the oil industry itself, that of specifications based on tests that would correlate with road performance. Present specifications were written around Pennsylvania oils but others can and do meet them, he said.

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A.P.I. Lubrication Group Meets With N.P.A.

SOLUTION of automobile lubrication problems arising principally from varied recommendations of manufacturers was a long step nearer solution as the result of cooperation between the automotive and oil industries, W. A. Correa told members of the American Petroleum Institute's committee on lubrication who met in conjunction with the annual meeting of the National Petroleum Association. Mr. Correa, of Socony-Vacuum Oil Co., Inc., is chairman of the committee.

(Continued on Page 41)

N.D.A.C. Report Points Out How Antitrust Suit Would Hamper Defense

THE Advisory Commission to the Council of National Defense has given consideration to the proposed antitrust suit against the American Petroleum Institute and 22 major oil companies, their subsidiaries and affiliates with a view to determining its probable effect on the defense program.

The commission appreciates that the decision of whether or not to take action against any particular persons or corporations for violation of the antitrust laws must be made by the attorney general in the exercise of his sound discretion. It further appreciates that in the work of the Department of Justice generally, and in the interpretation of the antitrust laws and the institution of civil proceedings thereunder in particular, there are involved not only problems of law but also problems of policy, including the harmonization of other aims and purposes of the nation. This report is submitted in the belief that it will be of assistance with respect to the questions of policy presented.

The commission's primary function is to assure and facilitate the availability of adequate supplies of all materials necessary for the defense of the nation at the lowest cost consistent with other necessary objectives. The commission, therefore, would deplore any condition or action leading to a failure of supply of such materials, whether for a short or long time, and whether partial or complete, or leading, among other things, to a lessening of efficiency, waste of natural resources, or any substantial increase in price to the Government or to consumers.

In appraising the impact of the proposed suit on the defense program the commission has examined the relief prayed for in the complaint and considered the effect of such relief upon the technical task of supplying petroleum products so vital to our defense forces and industry. Emphasis has been placed upon the anticipated effects of granting the prayer for relief, rather than upon the anticipated effects of filing the proposed complaint, largely because the practical result of the suit can be tested only by the objectives of the department as stated in its complaint. It is impossible, moreover, to say with assurance how long the trial of the issues raised by the complaint will require, how soon the structural changes sought will be achieved, or even what the character of the defense program will be during that interim period. If the objectives of the suit are consistent with the interests of national defense, no question can be raised by this commission. Our task is simply to determine so far as practicable whether those objectives in fact substantially impede the defense program.

The commission states at the outset that, in view of its desire to insure and facilitate adequate supplies at lowest cost, it is opposed to monopolistic or conspiratorial price fixing and to artificial restrictions on supply of materials (except where restrictions on supply are temporarily necessary to promote sound conservation of the nation's resources under law). Such price fixing and restrictions, always a threat to the national welfare, are particularly dangerous in time of emergency. The commission does not have information adequate to justify comment upon the various allegations in the draft complaint relating to price fixing and similar abuses in the wholesale and retail distribution of petroleum and petroleum products. But the commission wishes to assure the attorney general that it will wholeheartedly approve any appropriate legal action brought to eliminate such restraints on competition, where they are proven to exist.

The other provisions in the draft complaint, primarily the prayer that 22 of the larger integrated oil companies, their subsidiaries and affiliates, be required to divest themselves of their transportation and their marketing facilities, require thorough consideration from the defense viewpoint.

Before considering the effect of such a prayer, we may point out, although we do not propose to emphasize, that the suit has its intangible aspects. Certain demands have been made and others will be made upon the petroleum industry in connection with the defense program. From this industry, and from industry generally, the Government expects cooperation, and indeed enthusiasm, in furthering the defense effort. The commission is loath to believe that the members of the industry, or the members of any other industry, would consciously permit any personal resentment to interfere with the vital purchasing functions and supply needs of the Government. Yet the commission is aware that any legal action seeking relief as rigorous and comprehensive as the one under consideration, whether based upon the antitrust laws or not, has a tendency to becloud relationships between the Government and industry. Such considerations, however, are speculative and difficult to appraise with certainty.

In considering the effect of the prayer for divestiture by the oil-company defendants of their transportation and marketing functions, the commission recognizes that, apart from other considerations, the existing organizational structure of the oil industry is well adapted to the defense program. It simplifies problems of supply, and facilitates the making of firm and long-range commitments. Divestiture may entail a loss of technical management and efficiency. The readjustments contemplated by the suit, and the process of habituation under a new setup, will involve complications and delays. Curbs on capital expansion, certainly during the period when the splitups are still in contemplation and not yet in effect, must be anticipated. Doubts and uncertainties may arise as to whether a company should undertake capital expansion in properties which may be divested, as to who will be able to afford such expansion (in view of the prospective division of capital resources), and even as to who could appropriately apply for government assistance in such expansion. Eventually the Government will of course find some way to assure its supply. But time is precious.

The commission finds it impossible to estimate with precision or exactitude the extent to which obstacles to industrial preparation for national defense are presented by the relief prayed for in the complaint. However, the commission does not suggest that the proposed suit should be abandoned. The commission feels it appropriate to point out, nevertheless, that to a greater or less degree certain prayers for relief may hinder the defense program. The commission cannot undertake to meet the burden of proving, with courtroom evidence and logic, that such hindrances will ensue. But this balancing of national policies and weighing of judgments is peculiarly a matter for determination by executive officers rather than by judicial bodies accustomed to reliance

Jackson "On the Spot"

THE report of the National Defense Advisory Commission (printed in full on these pages) that the proposed suit to disintegrate 22 major oil companies "may hinder the defense program" places Atty. Gen. Robert H. Jackson in an extremely difficult position. If he files the suit he will be subject to severe criticism for ignoring defense considerations. On the other hand he is under strong pressure within his own department, from some New Deal quarters, from some independent operators and from some members of Congress to take legal action against major oil-company control of distribution and marketing facilities.

To most observers it would appear that the Defense Commission report contains overwhelming evidence against bringing a suit to break up the major companies. Specific interferences with the defense program included the following:

Divorcement of pipe lines would make it impossible for the Army and Navy to have the companies construct new pipe lines from the Southwest to the Atlantic Coast in order to save the ocean haul, and would also hamper the aviation-gasoline stock-pile program.

Divorcement of marketing terminals would hamper Army and Navy plans for bulk storage at strategic points.

Prohibition of exchange of gasoline would require scrapping of the Army and Navy plans for procuring fuel oil and aviation gasoline.

Certain types of crude best fitted to the production of aviation gasoline and toluene might be difficult to obtain if pipe lines were separated from the majors, and refiners might have difficulty meeting their commitments under government contracts.

Tanker divorcement would cause the Navy to devise a new plan for securing tank-ship service in time of emergency.

upon legal precedents. And even where the likelihood of interference with the emergency effort cannot be explicitly demonstrated, substantial possibilities should control, especially when these are examined in the light of the rapidly expanding requirements for national defense. Some of the problems presented by the prayer for relief may here be elaborated.

I Divorcement of Marketing Facilities

In certain instances the proposal that the larger oil companies be required to divest themselves of all direct or indirect ownership or control of facilities used in marketing petroleum products may affect the construction of such facilities pursuant to negotiations now under way or in prospect for national-defense purposes. The proposed divestiture would involve not only local bulk plants, storage facilities, and service stations but also trunk marketing facilities such as gasoline pipe lines, barges, tank cars, and terminals for petroleum products. At present both the Army and Navy are interested in having private capital construct pipe lines to transport gasoline to the East Coast states without the necessity of the long haul around Florida and up the Atlantic Coast, which in time of emergency might be difficult and in any event would require a large convoy service. Moreover, in time of emergency it would be possible to take a part of the burden of the gasoline deliveries to the East Coast through these gasoline pipe lines and in turn release tankers for the purpose of handling the essential products such as Navy fuel oil which cannot be handled in crude-oil or gasoline pipe lines. These gasoline pipe lines would also afford exceptionally desirable locations for some of the reserve stocks of aviation gasoline for both the Army and Navy since deliveries can be made at low cost and removal can be effected readily even in time of emergency. An initial expenditure of approximately $13,000,000 is involved in the gasoline pipe lines now under consideration and it would be desirable to have private capital construct similar equipment for emergency use in other parts of the country.

With respect to marketing terminals the program of the Army and Navy to care for the greatly increased stocks of aviation gasoline and Navy-grade fuel oil has not yet been completely formulated. The Army plans to locate most of its interior reserve storage at points on gasoline pipe lines. Such location of large buried storage facilities would not only be virtually invulnerable but would make it possible to deliver the gasoline to the Army through any of the industry tap points or bulk plants located along the gasoline line or lines to which the Army storage would be connected. In addition, the Navy is giving consideration to the location of some of their reserve storage adjacent to or connected with petroleum products pipe lines at existing industry terminals. This would greatly reduce the investment in docks, lines, utilizing facilities and so forth and also minimize the labor required to guard and operate these facilities.

It is clear that substantial additions to the gasoline pipe-line and terminal-storage capacity of the industry will be necessary under this program. Arrangements and understandings to secure such gasoline pipe lines and storage may have to be discarded and delayed until the ability to perform is clarified, and later new negotiations begun with new parties if the existing companies are required to divest themselves of such facilities. Moreover, we must take note of the fact that the Government may well encounter hesitancies and delays on the part of refiners who are asked to extend their contractual commitments, particularly since substantial investments are necessary to meet anticipated demands and, indeed, are now being requested. Several of the larger oil companies may face financial difficulties due to the impact of the current international conflict on the returns from their foreign properties. And granting the relief prayed for in the draft complaint will of itself diminish the capital resources available for particular products. Even government financing assistance would undoubtedly be delayed pending determination as to the proper identity of the borrower and terms of the loan.

Another proposal is that companies be prohibited from exchanging gasoline and other petroleum products. As a practical matter this would probably require the scrapping of the Army and Navy plan to insure the ready availability of Navy-grade fuel oil and aviation gasoline at terminal storage points and would increase the cost of such products to the Government. In any event this would increase the actual amount of transportation required, which would be highly undesirable in any period of emergency.

II Divorcement of Transportation Facilities

The draft complaint proposes that the larger oil companies be ordered to divest themselves of all direct ownership in the various media of transportation whereby crude oil is brought from the well to the refinery. These include primarily crude-oil trunk pipe lines and tankers.

Pipe lines today are admittedly utilized as plant facilities of petroleum refineries and afford to refineries of integrated companies the steady supply of crude oil regarded by such companies as essential to low-cost continuous operation. Divestiture of ownership in these facilities might under certain circumstances increase the difficulty of obtaining supplies. Such a potentiality would be particularly disadvantageous with respect to particular types of crude oil, used in the manufacture of high-octane aviation gasoline and toluene specified by the Army and Navy, a shortage of which is indicated by preliminary estimates of experts of the raw-materials division of the commission. Some expert opinion holds that the divestiture of crude-oil pipe lines would lead to increase of cost to the Government or even to the discontinuance in some instances of transportation of crude oil, where the transportation in and of itself is relatively unprofitable. It is similarly suggested that divestiture would delay or discourage construction of new connections. All the larger refineries and many of the smaller ones located on the Gulf Coast or in California have some crude oils available to them from their existing crude-oil pipe-line connections which would be useful for the production of these special materials. The curtailment or stoppage of the pipe-line supply of these crude oils would occasion refiners

(Continued on Page 42)

Beginning—Series on Drilling Muds . . .

Beginning in this issue Harry F. Simons, associate editor, starts a series of seven articles on drilling muds. The preparation and use of muds has become one of the most important phases of drilling, having direct bearing on operating economies. The series is based on an exhaustive study by Mr. Simons in the fields. Acknowledgment is made by the author of the aid of engineers and operators who have conducted special studies of mud problems. Reference is made in the series to recent discussion of the subject in the literature.

Turn to Page 46 in the Engineering Section of this issue to the first article which discusses the purpose of drilling fluid in rotary wells. Subjects which will be discussed in later articles are: (1) Surface and Mechanical Factors Affecting Drilling Mud. (2 and 3) Effects of Different Properties of Rotary Drilling Fluid. (4) Tests for Determining Properties of Rotary Drilling Fluid. (5) Admixtures and Chemicals Used in Drilling Fluid. (6) Treatment of Drilling Fluid to Overcome Difficulties.

HARRY F. SIMONS

SIMONS WELL QUALIFIED TO DISCUSS DRILLING PROBLEMS

Mr. Simons is well qualified by long experience to discuss developments in the use of muds and other practical problems of drilling, as he has done since joining The Oil and Gas Journal's editorial staff in August 1938.

He started work in the Seminole field of Oklahoma in 1928 when 18 years old. His first employer was the Reese Drilling Co. This first work was interrupted when a stand of drill pipe dropped on his foot and removed a big toe, permanently. This unfortunate experience may account for the fact that he is safety conscious and contributes regularly on that subject to the issues of the Journal.

He continued his work as a roughneck for several drilling contractors in Oklahoma fields. He took time out during this period to attend Oklahoma City University, East Central State College, and the petroleum engineering school of the University of Tulsa. He worked in the fields during the summers and other vacation periods, being employed by several widely known contractors of the Mid-Continent area.

He started drilling in 1937 in the Goldsmith pool of West Texas for Kirk-Green-Way, Inc. He left that section for Illinois and drilled wells in the basin area and Kentucky for the Robey Drilling Co., Parker Drilling Co., John Pugh, and the Hinkle Drilling Co. He was a tool pusher for the Muhlbach & Pray Drilling Co. for a short time and was drilling for Petrie & McCracken in the Centralia field when he joined the Journal staff.

STATE CAPITALS...

OKLAHOMA

W. J. ARMSTRONG, chief proration officer, on Monday notified crude-oil producers and purchasers a hearing will be held at 10 a.m. September 27 in the Corporation Commission rooms at Oklahoma City to formulate a recommendation on allowable crude-oil production for October, November and December or any one or two of these months. The Corporation Commission will meet at 11 o'clock to consider the recommendation and formulate the order which probably will be for 1 month. The Bureau of Mines has estimated market demand for Oklahoma crude in October would be 403,500 bbl. as compared to its estimate of 397,000 bbl. for September. The September allowable was set by the commission at 390,000 bbl. daily.

CALIFORNIA

THE CONSERVATION COMMITTEE of California Oil Producers, official curtailment body, at its regular monthly meeting on September 20 set the state oil-production quota for October at 571,000 bbl. per day the same as that for September. Even though the total production quota remained unchanged, however, the completion of new and reconditioned wells during the current month necessitated reduction of the maximum well allowable and reduction in the power factor applied to intermediate wells. The committee estimated that by the end of the month, 108 new wells will have been completed, requiring an allocation of 10,296 bbl. of oil per day. Reconditioned wells will require an additional 100 bbl. daily, making a total new allotment of 10,396 bbl.

In order to make room and absorb this additional crude-oil production, the committee reduced the top allowable for any one well by 3 bbl. per day. This reduced the top allowable from 156 bbl. that prevailed during September to 153 bbl. for October. The power factor for intermediate producers was also reduced. The reduction in top allowable applies to 904 wells, and will result in 2,712 bbl. of additional curtailment while the cut in the power factor will result in an additional curtailment of 2,804 bbl. per day. Changes in the uniform allocation formula will result in an additional net curtailment of 4,796 bbl. per day, and natural decline and abandonments will account for 5,600 bbl. per day, making the total reduction 10,396 bbl. daily. This 10,396 bbl. of additional curtailment to be effected in October will offset the allocation for new wells and recompletions.

ARKANSAS

THE ARKANSAS OIL AND GAS COMMISSION took the following action at the conclusion of the statewide oil and gas hearing on September 20. The state allowable was reduced from 74,595 bbl. to 68,743 bbl. daily, a reduction of 5,852 bbl., representing a total reduction of 8 per cent. This allowable was fixed for the months of October, November, and December, 1940. Prorated fields were cut from 49,190 bbl. to 43,743 bbl., a reduction of 5,447 bbl. This represents a reduction for the prorated fields of 11 per cent. The old fields were reduced from 25,405 to 25,000 bbl. This reduction in allowables being made pursuant to the testimony introduced at the hearing which in brief was that the crude-oil situation in Arkansas was weak, crude oil going to storage.

The application of the Arkansas Fuel Oil Co., G. H. Vaughn, Shell Oil Co., Inc., and others for a tolerance of acreage in excess of 40 acres for the purpose of fixing allowed production was denied. The commission found that inasmuch as the conservation law places a top of 40 acres as the size limit of any drilling unit, this limit cannot be exceeded. The application of the Southwood Oil Co. for the granting of acreage in excess of the 20 acres upon which the well was drilled on a 40-acre drilling unit was granted in that the commission will allow 30 acres to that well for the purpose of fixing allowed production.

Field rules for the Urbana new sand pool and the Nick Springs Travis Peak pool will be issued by the commission prior to October 1. The allowed production for wells in both of these pools was fixed not to exceed 100 bbl. per well. The application of Standard Oil Co. of Louisiana for a permit to drill on a long 40-acre tract, the well to be known as the Mary Booth No. 1, in the Magnolia field was granted. Three permits were granted for the Nick Springs area as exceptions to the spacing rule of that field.

TEXAS

THE RAILROAD COMMISSION'S POLICY of granting allowable increases to fields where market demand for additional oil exists and it can be produced without physical waste last week resulted in Texas' total allowable increasing 25,105 bbl. over last week to 1,369,443 bbl. This total is 49,143 bbl. over this month's market-demand estimate of the Bureau of Mines, but after deduction of an estimated 2.5 per cent underproduction actual production is estimated by the commission to approximate 14,907 bbl. over the bureau's figure. Last week's allowable production, however, would be 64,243 bbl. greater than the demand estimate for October, which is estimated at 1,305,200 bbl. or 15,100 bbl. below the September figure.

The shutdown exemptions for the K.M.A. and Hull-Silk fields of North Texas, plus a per-well increase for the latter, accounted for most of the 25,105-bbl. gain during the week. This action was made effective on Saturday following a hearing on the previous day. An account of this special field hearing is given on Page 38 of this issue.

Daily allowables of the various districts as of September 21 and the change from the previous week are as follows: Southwest Texas, 232,064 bbl., up 1,528; Gulf Coast, 207,161 bbl., up 2,322; East Central, 78,856 bbl., up 156; East Texas, 367,932, unchanged; West Central, 52,127 bbl., down 6; West Texas, 215,664 bbl., up 800; North Texas, 129,633 bbl., up 20,252, and Panhandle, 85,976 bbl., up 53 bbl.

ADOPTION OF A STATE-WIDE RULE limiting the deviation from vertical of wells drilled in Texas was opposed at a hearing called by the Railroad Commission in Austin, and the matter was reset for discussion at the next state-wide proration hearing. Promulgation of a rule was urged by Arkansas Fuel Oil Co., whose representatives explained the request was motivated by the directional drilling of two offset wells on the east side of the East Texas field. They did not propose a rule but submitted a copy of one in effect in Arkansas which requires variation tests at 500-ft. intervals and limits deviation in wells less than 150 ft. from the property line to 3° from vertical; 150 to 300 ft., 4°, and more than 300 ft., 5°.

Rayburn Thompson, speaking for Pure Oil Co. and Texas Gulf Producing Co., contended a state rule was unnecessary and suggested adoption of rules applicable to particular fields.

KANSAS

THE CORPORATION COMMISSION has notified operators and purchasers that a hearing on the Hugoton gas field of southwestern Kansas will be held on September 28 at Topeka. At the hearing the market demand for gas produced from the field for the proration period extending from October 1, 1940, to March 31, 1941, will be determined. Market demand for each of the five zones will be established and evidence received on open flow, pressure and acreage of each of the wells for fixing the allowable of each well. Purchasers were requested to submit in writing prior to the hearing their estimates of gas to be bought in the field during the proration period.

DIRECT PELICAN STATE'S MINERALS DIVISION . . .

These men comprise the directing personnel of the Minerals Division of the Louisiana Department of Conservation. They are: Herbert Dickard, manager, Monroe area; J. J. Metzger, chief engineer, New Orleans district; Bert Metzger, engineer and manager, Lake Charles area; Ed Hagstette, manager, Lafayette area; D. B. McConnell, director, Minerals Division, New Orleans; Dr. J. Huner, newly appointed state geologist; Maj. B. A. Hardey, commissioner of conservation; C. B. Smitherman, manager, Shreveport area; George A. Wilson, general attorney, and Harold Gourgues, manager, Houma area. They will help to administer the improved conservation regulations which Louisiana has put into effect. See Page 33 of this issue for an account of the state's second state-wide proration hearing

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Open Covenants

With disturbing frequency the oil scene shifts from the oil country to Washington.

Despite the fact that this industry over the past year has given a complete account of its stewardship covering all of its operations and has not been found wanting, reports persist that Washington is about to do something.

No one attempts to explain what or why, reflecting the increasing futility of trying to apply logic and reason to many official activities at the nation's capital.

Over the past week interest centers in the objectives of a secret committee, which has met twice at the direction of the secretary of the interior, with the blessing apparently of still higher authority.

Aside from the natural curiosity as to what is going on, the industry wants to know why any discussions involving its operations should be held behind closed doors.

We are not at war and have been assured that it is highly improbable we shall be.

So far as the present preparedness program is concerned, the status of oil operations has been checked by representatives of the military who have been shown that the industry can supply its needs many times over. The only possible exception is certain products of unusual specifications, and a program to supply this deficiency has been approved.

The Advisory Commission of the Council of National Defense covered this situation last week in one of the most conclusive and significant findings that has come out of Washington in several years.

In its report to the Department of Justice, relative to the plan of the department to divorce pipe lines and marketing from the industry, the committee found that "the existing organization structure of the oil industry is well adapted to the defense program. It simplifies problems of supply and facilitates the making of firm and long-range commitments."

Equally clear was the observation that "the commission is aware that any legal action seeking relief as rigorous and comprehensive as the one under consideration, whether based on the antitrust laws or not, has a tendency to becloud relationships between the Government and industry."

Obviously those who were called to Washington do not represent anyone but themselves and they would be the last to claim authority to bind the industry in any plan of regulation suggested by the cabinet member.

What concerns the entire industry should be known to all of its operating units for collective action.

There is, in fact, no reason why anyone should go to Washington to let the Government know where this industry stands. Washington already knows.

From the Government's printing presses in recent months there have come thousands of pages covering the testimony that was presented at the hearings of the Temporary National Economic Committee, the Cole congressional subcommittee and other investigations.

Apparently the evidence as presented by all branches of the oil business at these hearings has never been assimilated by those who speak for the Interior Department.

Otherwise they would realize that operators who, on request, made an open book of the industry's operations presented a clear case for a free industry under state supervision to continue in any emergency.

On a basis of its record, the industry has every right to insist that the American heritage—somewhat tarnished by recent developments—of "open covenants openly arrived at" will apply to any governmental action that has to do with its operations.

Constanta Relegated to Secondary Oil Port By European War

BETWEEN 80,000 and 85,000 bbl. of Rumania's daily petroleum production is now available for shipment to the German Reich. This hypothetical availability of Rumanian oil is not to infer that it will all reach Germany. However, the recent establishment of totalitarian rule under the Axis-influenced Gen. Ion Antonescu as Rumanian dictator creates a set of conditions which, theoretically at least, will enable Germany to acquire all Rumanian petroleum except internal requirements.

Rumania's oil production totaled 21,563,425 bbl. for the first 6 months of 1940, a daily average of 118,480 bbl. In the 2 years preceding the current European war Rumania's internal petroleum consumption averaged approximately 35,000 bbl. daily, leaving an export surplus of about 83,000 bbl. daily. Even before King Carol abdicated, Rumania had nationalized the important subsidiaries in that country of the Royal Dutch-Shell and other British and French interests because of their resistance to the Axis-inspired petroleum-export program.

National Rumanian oil companies, including properties of British and French interests placed under government administration, account for approximately 86.5 per cent of the country's petroleum production. The only foreign company of any importance remaining under private administration in Rumania is the Standard Oil Co. (New Jersey) subsidiary, Romano-Americana, which accounts for about 13.5 per cent of the total output.

The eight leading producing companies in Rumania account for 91 per cent of the nation's production. The remaining 9 per cent is entirely in the hands of small Rumanian concerns.

Romano-Americana is a subsidiary of the Standard Oil Co. (New Jersey), but administration of intercompany affairs is entirely in the hands of the local management making it, for all practical purposes, a national concern in character and function. The Italian company, AGIP, retains a substantial interest in Prahova, and since the war started German interests have become dominant in I.R.D.P.

Establishment of national administration over British and French companies, German and Italian influence of I.R.D.P. and Prahova, and the neutral position of Romano-Americana supplying whatever market develops leave the Axis powers in the position of dictating to the Rumanian oil industry.

Location of Fields

All of the important fields of Rumania are in the territory remaining under the government of General Antonescu. Relinquishment of Transylvania to Hungary and Bessarabia to Soviet Russia has practically no immediate bearing on the Rumanian industry. Transylvania contains some relatively important natural-gas fields and has some attraction as a potential oil-producing territory under more favorable conditions.

War-period changes in Rumania have made possible for Germany the emergency procurement of approximately 30,000,000 bbl. of petroleum annually from that source. The chief obstacle to reducing Rumanian petroleum to an Axis military asset is transportation. The winter season is not far ahead when barge and river-tanker movement through the Danube will be severely restricted. Rumanian railways offer only a partial solution. There are insufficient tank cars available to Germany, including all Rumanian rolling stocks and those acquired in France by conquest, to solve the transportation problem by overland methods.

The port of Constanta on the Black Sea, through which approximately 75 per cent of Rumanian petroleum exports move in peacetime, is virtually valueless from a current military standpoint. While the British Navy dominates the Mediterranean, and could, therefore, protect outbound oil shipments, the internal situation in Rumania practically nullifies movement in that direction.

Prior to capitulation of Rumania to Axis pressure, Great Britain received 35 to 45 per cent of all petroleum exports. In the first 3 months this year, when traffic through the Danube was impossible because of ice, Germany received only 15 per cent of the outbound shipments. Resumption of shipments through the Danube near the end of March equalized the Rumanian exports to Great Britain and Germany until Italy caused almost complete cessation of commercial shipping in the Mediterranean by joining Germany as an active ally.

A part of Great Britain's heavy purchases of Rumanian oil during the early stages of war had the dual objective of furnishing needed petroleum and preventing it from falling into German hands. The Mediterranean is now a virtual dam against export of Rumanian oil, forcing its movement to the interior of Europe.

Tanker-loading facilities (25,000,000-bbl. annual capacity) at the Rumanian Black Sea port of Constanta are now used at only part capacity

Rumanian production for the first 6 months of this year totaled 21,563,425 bbl., a reduction of approximately 5 per cent from the same period in 1939. Details of production for the first 6 months by companies, shown in Table 1, gives the national-

TABLE 1—PRODUCTION BY COMPANIES

(Figures in barrels)

Company—	Production first half 1940	Daily average
Astra Romana (British)	4,575,125	25,140
Concordia (Rumanian)	2,927,460	16,085
Romano-Americana (Amer.)	2,952,885	16,225
Steaua Romana (British)	2,600,580	14,290
Colombia (French)	2,357,475	12,955
Unirea (British)	2,328,160	12,790
Prahova (Italian)	990,325	5,440
Creditul Minier (Rumanian)	1,053,980	5,790
I.R.D.P. (German)	466,175	2,560
Groupe Petrolul Romanesc	305,740	1,680
Groupe Dacia Starnaphta	210,845	1,160
Fora-Lemoine	163,505	900
Foraky Romaneasca	126,390	695
Sondrum	75,045	410
Romano-Belgiana de Petrol	32,560	180
Redeventza	83,030	455
Societatea Petrolifera Romana	55,440	305
Naphta Romana	51,765	285
Meldonaphta	33,240	180
Socop	35,305	195
Subsolol Roman	29,635	160
Continentala Petrolifera	32,615	180
Sarveg	22,845	125
Geozina	12,560	70
Buna Speranta	24,720	135
Petrolmina	16,020	90
Total	21,563,425	118,480

ity of the leading companies. The smaller concerns are all dominated by Rumanian capital.

Since March, Germany has been meeting its projected program of purchasing 130,000 tons (about 1,000,000 bbl.) of petroleum monthly in Rumania. The average Reich receipts of Rumanian oil through the first 8 months, according to unofficial figures from Bucharest, have been approximately 625,600 bbl. monthly.

There has been no exploratory drilling in Rumania since the war started and drilling in proven fields has been curtailed to some extent. Moniteur du Petrole Roumain, the semiofficial Rumanian petroleum journal, reports drilling for the first 6 months totaled 397,000 ft., against 426,000 ft. for the same period in 1939.

Table 2, showing Rumanian production for April

TABLE 2—RUMANIAN CRUDE-OIL PRODUCTION BY FIELDS

(Figures in barrels)

Field—	April 1940	May 1940	Jan.-May 1940
Tintea	784,460	791,445	3,965,330
Lilesti	28,800	31,200	196,990
Bolcoi	48,415	69,595	245,410
Margineni	73,565	102,000	412,755
Moreni	372,840	375,200	1,901,970
Piscuri	203,845	215,695	1,037,465
Ceptura	396,775	376,830	1,917,360
Boldesti	392,270	415,430	1,991,285
Aricesti	14,635	13,610	64,240
Runcu	49,710	52,300	263,795
Chiciura-Bordeni	67,280	63,715	329,975
Campina	16,830	19,125	86,455
Pitigaia-Gura	7,335	7,335	37,955
Copaceni	6,395	6,400	38,720
Scaiosi	600	650	3,160
Total Prahova dist.	*2,463,755*	*2,540,530*	*12,492,865*
Gura-Ocnitei	666,315	694,845	3,477,695
Bucsani	161,405	163,505	806,645
Ochiuri	153,990	165,785	773,000
Rasvad	146,960	155,560	707,660
Teis-Aninoasa	27,445	25,660	125,790
Viforata	9,290	11,225	47,670
Glodeni	1,010	1,040	4,700
Total Dambovitza	*1,166,415*	*1,217,620*	*5,943,160*
Arbanasi (Buzau)	23,655	22,710	114,230
Bacau district	26,225	27,105	132,990
Grand total	3,680,050	3,807,965	18,683,245

and May and for the first 5 months of 1940, reflects the importance of the Prahova district, which accounts for nearly 70 per cent of the entire national output. The Tintea, Boldesti, Ceptura, Moreni and Piscuri fields account for 87 per cent of Prahova district's production. Activity has been concentrated in five Prahova district fields for the reason that they offer the most immediate response to requirements.

The Danube River port of Girgui has supplanted Constanta as the important Rumanian oil-shipping center, although limited shipments to nearby Balkan countries continue to pass through Constanta.

Commissioner Pledges No Hot Oil Production At Louisiana State Hearing

Maj. B. A. Hardey, commissioner of conservation, addressing oil operators. D. B. McConnell and George Wilson at his right and left

By NEIL WILLIAMS

NEW ORLEANS, La., Sept. 24.—Backed by a new oil and gas conservation law which critics declare to be the most far reaching and effective, as well as "foolproof," of any existent in other states, the Louisiana Department of Conservation is inaugurating a more intensified control over the development, production and movement of oil in this state.

For the past several months, since the new administration headed by Maj. B. A. Hardey as conservation commissioner has been in charge, the department has been undergoing a revamping of personnel and work with a view toward providing an efficient and adaptable organization for carrying out the new program of operation.

This reorganization is now about complete, Major Hardey told The Oil and Gas Journal in an interview the past week, and from now on it should be functioning smoothly and making itself felt in the administration of effective conservation. Major Hardey said he had built up an organization free of all politics and composed only of those judged most capable of performing their respective duties.

Policy of the new administration, Major Hardey promised, will be one of utmost cooperation with other states in efforts to hold production of oil within market requirements, but, at the same time, he added, Louisiana wants to produce its full share of the market demand, and does not expect its market outlets to be encroached upon by surplus production of other states.

Intimation of this attitude was given operators of the state in the state-wide proration hearing held at New Orleans, September 18, when Mr. Hardey expressed concern over the reported movement of Mississippi and Arkansas crude to storage in Louisiana. He stated he was well aware of the excessive stocks of crude oil and gasoline and felt that further curtailment of production is needed, but that he did not want Louisiana production replaced by oil coming in from these other states.

As a result of the hearing, however, and in line with its desire to curtail production, the Conservation Department has ordered a reduction in total allowables of the state for October. The October allowable has been set at approximately 270,000 bbl. daily, which is about 4,000 bbl. under the Bureau of Mines estimate of daily market demand for the state for that month, the estimate being 274,200 bbl.

The basic allowable for September has been 274,854 bbl., but new production which has been brought in has boosted this to a current production of around 287,000 bbl. Thus, the October basic allowable necessitates a cut from actual allowable production of approximately 15,000 bbl. New production added during October, however, is expected to swell the daily production to its present level.

Majors Urge Allowables Cut

At the hearing last week, the Conservation Department was urged by a number of major companies, chief of which were the Texas Co. and the Standard Oil Co. of Louisiana, to cut allowables of the state for October at least 5 per cent under the Bureau of Mines estimate of market demand. The request was made in advance of knowledge of what the Bureau of Mines figures would be, and these companies expressed willingness to take a pro rata cut off their respective nominations for crude for the month if necessary.

The spokesman for the Standard Oil Co. pointed out that his company needed an estimated 5,000,000 bbl. of crude over the remainder of the year, and that the crude supply now exceeded requirements about 3,000 bbl. daily. He said a reduction in production to approximately 95 per cent of market demand was needed to provide a balance.

The statistics were presented by Rex Baker, representing Humble Oil & Refining Co., that storage of Louisiana and Mississippi crude increased an average of 30,000 bbl. daily during the period from August 1 to September 7. Of this, he said, Mississippi accounted for from 9,000 to 10,000 bbl. daily.

This was Louisiana's second state-wide proration hearing. Holding of such hearings was instituted as a phase of the new conservation program in the state to make the issuance of proration orders more effective and legally binding. Regular hearings will be held at 60-day periods with special state-wide hearings to be called as occasion demands. Although the primary consideration at the hearings is the presentation of nominations for crude requirements, taking up of other matters affecting the regulation of production and administration of conservation are in order.

More rigid check on the movement of oil as a means of preventing all possible chance for the production of "hot oil" in the state, also is being undertaken by the Conservation Department. In line with this, Major Hardey announced the past week that effective October 1, the department would require tenders on all oil shipped by barges. While not making any direct accusations that illegally produced oil had been, or is being moved in barges, he explained that in the past there had been no complete check on this movement, which has left the way open for shipping of "hot oil." The department already has a thorough check on all other oil-transportation means in the state, he said, and with tenders on barged oil now required the last possible outlet for any illegally produced oil is being closed.

In coastal Louisiana, where many of the fields are located on or convenient to navigable waterways and inaccessible to other means of trans-

(Continued on Page 42)

Operators attending proration hearing at New Orleans, September 18. Standing is J. R. McWilliams, vice president, Standard Oil Co. of Louisiana

B. of M. October Forecast Is Below That of September

DEMAND for 3,580,600 bbl. of domestic crude oil daily in October has been forecast by the Bureau of Mines. The October figure is 43,700 bbl., or 1 per cent below the projected demand for September and 6 per cent below the actual demand in October 1939.

The reduction in crude demand during the third quarter, the bureau related, represents a reaction from the relatively high operations of the second quarter and reflects evidence of further declines in the export markets for refined products due to the pressure of foreign oils that have been left without a market by the blockade of European ports.

The domestic demand for motor fuel in October is estimated at 53,000,000 bbl., an increase of 7 per cent over the same month last year. The October figure includes 1,320,000 bbl. of benzol and direct sales of natural gasoline. Oklahoma and Kansas are the only states accorded any substantial increase in October crude demand. Gains elsewhere are modest. Estimated demand from Texas of 1,305,200 bbl. daily in October is 15,100 bbl. less than the September forecast and 106,600 bbl. daily below the actual in October 1939. The Illinois demand figure is down 24,800 bbl. for October. The breakdown of daily demand for domestic crude oil in October, without consideration for changes in stocks, follows:

State—	Forecast Oct. 1940	Forecast Sept. 1940	Actual Oct. 1939
Texas	1,305,200	1,320,300	1,411,800
California	583,200	593,000	675,900
Illinois	405,200	430,000	330,300
Oklahoma	403,500	397,000	503,400
Louisiana	274,200	274,700	284,700
Kansas	178,700	170,700	159,200
New Mexico	104,500	105,300	95,900
Wyoming	75,200	75,300	78,200
Arkansas	70,700	69,700	74,900
Michigan	53,900	55,700	65,000
Pennsylvania	45,100	47,600	54,900
Montana	17,700	17,700	17,600
New York	12,000	13,700	14,800
Kentucky	12,200	13,300	11,000
Mississippi	9,000	9,700	800
Indiana	9,300	9,300	2,700
West Virginia	9,100	9,000	9,600
Ohio	8,000	8,300	8,500
Colorado	3,900	4,000	3,000
Total	3,580,600	3,624,300	3,802,200

UNITED STATES SUPPLY AND DEMAND

Seven months, 1940 and 1939 (All figures in thousands of barrels)

Crude Oil

7 Months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude July 31‖
1940	823,268	798,806	*24,462	*3.1	801,145	22,123	766,784	32,022	‖263,498
Daily average	3,865	3,750	.....	...	3,761	104	3,600	150	.....
1939	752,882	757,964	5,082	0.7	734,328	18,554	715,711	42,253	270,570
Daily average	3,551	3,575	.....	...	3,464	88	3,376	199	.....
Increase, 1940	70,386	40,842	.....	...	66,817	3,569	51,073	†10,231	†7,072
	9.3%	5.4%	.....	...	9.1%	19.2%	7.1%	†24.2%	†7%

Refinery Products—Motor Fuel

7 Months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks July 31§
1940	355,150	347,263	*7,887	*2.3	355,081	69	332 487	14,776	89,609
Daily average	1,667	1,630	.....	...	1,667	.....	1,561	69	.....
1939	343,874	335,706	*8,168	*2.4	343,874	.....	308,726	26,980	78,947
Daily average	1,622	1,583	.....	...	1,622	.....	1,456	127	.....
Increase, 1940	11,276	11,557	.....	...	11,207	.....	23,761	†12,204	10,662
	3.2%	3.4%	.....	...	3.2%	.....	7.7%	†45.2%	13.5%

Kerosene

1940	42,438	41,823	*615	*1.5	42,370	68	39,305	2,518	8,191
1939	39,327	38,271	*1.056	*2.8	39,327	.....	33,772	4,499	8,855
Increase, 1940	3,111	3,552	.....	...	3,043	.....	5,533	†1,981	†664
	7.8%	9.3%	.....	...	7.7%	.....	16.4%	†44.0%	†7.5%

Gas Oil and Residual Fuel Oil¶

1940	307,547	307,497	*50	*0.02	289,819	17,728	285,237	22,260	132,441
1939	277,228	286,805	9.577	3.3	266,911	10,317	257,509	29,296	136,504
Increase, 1940	30,319	20,692	.....	...	22,908	7,411	27,728	†7,036	†4,063
	10.9%	7.3%	.....	...	8.6%	71.8%	10.7%	†24.0%	†11.5%

Gas Oil and Distillate Fuels

1940	109,351	107,463	*1,888	*1.8	107,550	1,801	94,300	13,163	39,412
1939	92,413	96,932	4,519	4.6	92,242	171	78,157	18,775	35,340
Increase, 1940	16,938	10,531	.....	...	15,308	1,630	16,143	†5,612	4,072
	18.3%	10.8%	.....	...	16.1%	953.2%	20.7%	†29.9%	11.5%

Residual Fuel Oils

1940	198,196	200,034	1.838	0.9	182,269	15,927	190,937	9,097	93,029
1939	184,815	189,873	5,058	2.6	174,669	10,146	179,352	10,521	101,164
Increase, 1940	13,381	10,161	.....	...	7,600	5,781	11,585	†1,424	†8,135
	7.2%	5.3%	.....	...	4.4%	57.0%	6.5%	†13.5%	†8.0%

Lubricating Oils

1940	22,608	21,117	*1.431	*6.8	22,608	.....	13,677	7,500	8,573
1939	18,796	19,315	519	2.7	18,796	.....	13,035	6,280	7,179
Increase, 1940	3,812	1,862	.....	...	3,812	.....	642	1,220	1,394
	20.3%	9.6%	.....	...	20.3%	.....	4.9%	19.4%	19.4%

Petroleum Wax (Thousands of pounds)

1940	354,346	315,986	*38,360	*12.1	309,400	44,946	177.188	138,798	113,978
1939	269,514	289,532	20,018	6.9	251,160	18,354	147,919	141,613	109.322
Increase, 1940	84,832	26,454	.....	...	58,240	26,592	29,269	†2,815	4,656
	31.5%	9.1%	.....	...	23.2%	144.9%	19.8%	†2.0%	4.3%

*Excess supply. †Decrease. ‡Crude only. §Includes finished and unfinished refinery gasoline and natural gasolines. ¶Gas oil and fuel oil equals gas oil and distillate fuels plus residual. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products based on refinery shipments. ‖Does not include 13,204,000 bbl. of heavy oils in California. Comparable figure for July 31, 1939, 14,375,000 bbl.

Crude Oil Run to Stills and Total All Oils

7 months—	Total imports§	Total exports§	Total crude to stills	Per cent yield gasoline‡	Natural gasoline production	Total supply all oils*	Total demand all oils*	Stocks all oils July 31*
1940	45,300	81,957	753,310	42.8	31,025	879,227	830,640	573,357
Daily average	213	385	3,537	...	146	4,128	3,900	.....
1939	34,007	110,758	702,972	44.6	29,025	798,564	794,162	571,448
Daily average	160	522	3,300	...	137	3,767	3,746	.....
Increase, 1940	11,293	†28,801	50,338	...	2,000	80,663	36,478	1,909
	33.2%	†26.0%	7.1%	...	6.9%	10.1%	4.6%	0.3%

*Total all oils include crude and refined products, natural gasoline and benzol. Stocks July 31, 1940, represented 147 days' supply, which compares to 153 days on the same date in 1939. †Decrease. ‡Does not include natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports.

Kendall Purchases Large Tract

BRADFORD, Pa. — The Kendall Refining Co. has purchased 300 acres of oil property in West Branch from Maria B. Emery. The parcel, which has 98 wells, includes the land on which the Harri Emery airport is located. Arrangements have been made between Kendall and the Bradford Airport Club whereby operation of the airport may be continued. No intensive development of the property is planned in the near future, it is said. Kendall also purchased the American House, a 64-year-old landmark. Demolition of the three-story wooden structure is under way.

Mexican Crude to Japan

Three Japanese tankers which have been in the California-Japan run for some years have been diverted south to Tuxpan, Mexico. It is highly probable that this switch from California to Mexico is a direct outcome of the recent United States embargo on aviation gasoline and material from which such gasoline can be refined.

The first of these vessels left Los Angeles Harbor on September 4, carried a cargo to Cristobal, Canal Zone, and undoubtedly will proceed from there to Tuxpan, load, and return to Japan. The second left September 13, the other on the 17, both bound for the same Mexican port, in ballast. Between them, the three tankers are capable of bringing back 250,000 bbl. of petroleum from Mexico.

In addition to this segment of the Japanese tanker fleet, a Norwegian tanker recently stopped at Los Angeles for bunkers then proceeded on to Japan carrying 100,000 bbl. of crude from Peru. Another sailed September 18 for the same destination with a full cargo of Mexican crude, also estimated at 100,000 bbl.

There was also a 75,000-bbl. cargo of gas oil from New Orleans, La., through Los Angeles on August 6 when the Belgian tanker Laurent Meeus stopped in for bunkers on her way to Japan.

The cumulative total for 1940 up to September 18 of petroleum exports to Japan from countries or ports other than California now amounts to 954,000 bbl. according to Oil Producers Agency estimates. Of that total, 427,000 bbl. were from Mexico; 372,000 bbl. from Peru; and 155,000 bbl. from Louisiana. These figures do not include the three recent departures mentioned in first paragraph. When those boats return the total from Mexico will rise to approximately 677,000 bbl. and the grand total will be 1,204,000 bbl.

International

Japan . .

Delegation Seeks Oil Concessions

JAPANESE imports of mineral-oil products for the first half of 1940 were estimated at $37,520,000, as compared with about $36,000,000 for the corresponding period of 1939. However, a decrease in physical volume appears probable when allowance is made for the higher world-market price of mineral-oil products, and for the enhanced cost of insurance and freight (Japanese imports being calculated on a c.i.f. basis).

Imports, so far, have met little difficulty under the American export-licensing system, but the embargo on exports of high-test aviation gasoline has been rigidly enforced.

Oil storage in Japan will no longer be monopolized by the navy as the army promulgated regulations on August 1 regarding construction of an army fuel depot at an undisclosed place.

The fuel institute of the Department of Commerce and Industry has decided to build a pilot plant at Oji, near Tokyo, to produce synthetic fuels by hydrogenation of low-temperature tar and by direct liquefaction of coal.

The first large Fischer-Tropsch plant in Japan has been completed at Omuda, Kyushu, by the Mitsui Mining Co., and seems to be producing in marketable volume, for the trade press reports that a conference of Mitsui executives and army, navy, and commerce-industry officials has been set for the purpose of allocating quotas to the defense services and to industry and commerce.

Kyoto Imperial University, best-known seat of fuel research in Japan, has completed a $1,172,500 pilot plant under the direction of Gen'itsu Kita, director of the university's chemistry department. Dr. Kita is credited with developing a synthetic process using iron instead of cobalt as catalyst.

The Japanese delegation to Dutch East India, which left Tokyo for Batavia on September 2, has placed "oil concessions" on top of its agenda. Acquisition of oil resources in the Dutch colony in competition with British and American interests is a Japanese ambition of long standing. The subject has been aired almost every year in the Imperial Diet, but the East Indian Government remained cold to Japanese advances. A single prospecting charter was granted in 1929 to the Japanese controlled Borneo Petroleum Co., but the Dutch Government reserved the right to expropriate any oil pools that should be located, subject to reimbursement of the capital outlay involved. After vainly wildcatting for 10 years, Borneo Petroleum has recently struck oil, and it is expected that Tokyo will strongly resist any attempt to wrest the field from the Japanese concern. Additional charters will be no doubt demanded, but it is questionable whether the Japanese would be able immediately to undertake large explorations unless they obtain American equipment on a credit basis, or by way of admitting foreign minority investments. The shortage of drilling equipment has, so far, nullified Japanese attempts to step up domestic crude-oil production, even though employment in the industry has increased 10 per cent since the outbreak of the China "incident."

If Japan succeeds in exacting concessions from the Dutch, the second world war will have contributed as much to Japan's oil resources as the first, if not more. The first world war helped Japan gain the Sakhalin oil concessions from the Soviet as part of the Russo-Japanese settlement in connection with the Allied intervention in Siberia.

It is planned to establish a "national policy" tanker corporation by merging the existing tanker firms into one state-controlled body. The project is one of several designed to utilize the existing tanker capacity to the fullest possible extent. A severe tanker shortage has made itself felt, partly because several chartered vessels—mainly Norwegian and Dutch—have been transferred to Allied oil companies, partly because Japan is endeavoring to buy oil from more distant sources, so as to lessen her dependence on the United States.

SEPTEMBER regulations on the rationing of gasoline in Tokyo have been issued by the metropolitan police department. Individual vehicles have been assigned the following gasoline allowances for the entire month: Hire cars, 45 gal.; taxis, 61; large trucks, 101; medium-sized trucks, 87; small trucks, 54; private cars, 7 gal.

Australia . .

Oil-Shale Plant Built In New South Wales

AN important step toward decreasing Australia's dependence on imports for petroleum supplies was taken with the construction of an oil-shale plant at Glen Davis in New South Wales. This plant will process 500 tons of shale per day and will have a production of 100 gal. of crude oil per ton of shale. Calculated on the basis of 35 Imperial gal. to 1 United States bbl., this would mean an annual production of 520,000 bbl. of crude oil, equivalent to one-third of Australia's imports in the last fiscal year before the war.

With no commercial production, Australia is dependent entirely on imports of crude oil and refined products. While a prolonged search for oil production has been made, results have been so discouraging that in May of this year the government refused further subsidies for drilling by private interests. In its last prewar year, Australia imported 17,869,000 bbl. of crude and refined oil, 9,862,000 bbl. of which were gasoline. The Netherlands East Indies were its principal suppliers, 11,082,000 bbl.; the United States was second, 2,208,000 bbl. including 405,000 bbl. of lubricants; Iran was third, 2,155,000 bbl., and Bahrein Island fourth, 1,429,000 bbl. The 1,552,000 bbl. of crude oil imported was processed at three Melbourne refineries having a combined capacity of 4,100 bbl. per day. Shell and Commonwealth Oil Refineries, Ltd. (Anglo-Iranian) each have 2,000-bbl. refineries at Melbourne, the former with the only cracking capacity, 1,000 bbl.

According to the Accelerator, Commonwealth Oil Refineries, Ltd., publication, oil shales were discovered in New South Wales in 1807. The richest beds are in the Capertee and Wolgan valleys and at Baerami about 130 miles west of Sydney on the southeast coast. Attempts to process this shale shortly after the turn of the century by methods then employed in Scotland failed because of the greater richness of the New South Wales shales. Modification of the type of Pumpherston retort then in use enabled operators to produce unusually large yields of kerogen or crude oil and the modified retorts are now in use. Oil is recovered from the shale in these retorts under high temperatures and is further distilled for the production of gasoline, kerosene, fuel oil, and residual cuts. Cracking and polymerization are also utilized to bring the gasoline up to a comparatively high standard.

National Oil Proprietary, Ltd., the company which operates the new plant, was formed in 1937 and operations are in charge of G. F. Davis, one of the founders. A battery of 108 retorts will process the 500 tons of shale that will be mined daily in the Capertee Valley. By polymerizing the plant gases and by cracking, a yield of 60 gal. of gasoline per ton of shale is anticipated, a yield that will be equivalent to 60 per cent of the 100 gal. of crude oil that will be extracted from each ton of shale. This would give an annual production of more than 10,000,000 gal.

The plant's gasoline production will be transported through a 32-mile pipe line from Glen Davis to Newnes Junction and will be distributed from that point in tank cars.

Ecuador . .

Geologists Surveying International Petroleum Company Concession

SIX geological parties, three gravimeter crews, and one magnetometer crew are engaged in surveying the 10,000,000-acre concession which the Government of Ecuador granted the International Petroleum Co., Ltd., in June 1939 and core drilling of various sections of the vast area is due to start soon. The concession is in western Ecuador.

The terms of the concession give the International Petroleum Co., Ltd., the right to choose 400,000 ha. (1,000,000 acres) for development if justified by the survey now under way. Actual exploration work is carried on during the dry season while mapping and preparation of reports is done during the half-year rainy season. Executive offices of the company are in Quito, the capital city, but operations are carried on from Guayquil located on the gulf of the same name and at the mouth of the Guayas River which divides the concession.

Small fields on the Santa Elena peninsula with a production of about 6,000 bbl. per day represent the entire crude-oil production of Ecuador at present. These fields lie west of the concession granted to International Petroleum.

Uruguay . .

Import Quota On Fuel Oil

AN import quota of 108,500 tons, approximately 760,000 bbl., of fuel oil has been set for the last half of 1940 by Uruguayan presidential resolution. Fuel-oil imports under the quota are exempt from the customs surcharge of 0.0015 pesos per kilo.

The exempt quota of fuel oil is divided proportionately between the ANCAP (National Administration of Combustibles, Alcohol and Portland Cement) and private companies on the basis of their respective sales in 1939.

TUBE-TURNS for

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Commission Exempts K.M.A. and Hull-Silk From Shutdowns

AUSTIN, Tex.—Allowables of the K.M.A. and Hull-Silk fields of North Texas were boosted a total of 14,000 bbl., effective last Saturday, following hearings held on the previous day by the Railroad Commission, at which operators in the two fields testified the fields were not being granted fair allowables. The increased allowable of the K.M.A. field resulted from the commission exempting that field for shutdowns, and that of the Hull-Silk field from shutdown exemptions combined with an allowable increase from 28 to 40 bbl.

Although the Friday hearing was called specifically on the two fields, most of the discussion turned to the general situation as operators reiterated insistence for a state hearing and adjustments in other fields. Commissioners E. O. Thompson and Jerry Sadler, who announced the increase, did not grant that part of the request, which prompted expressions of concern by operators as to the general outlook, fearing the state's production would exceed demand and build up excessive stocks during the winter consuming period.

John E. Kilgore of Wichita Falls, spokesman for the 21 operators who petitioned for an adjustment, told the commission at the outset that while they felt the two fields were being discriminated against they were not applying for an increased allowable if it would boost the overall flow "because these operators feel that the situation already is dangerous enough."

Comparisons with other fields were cited by D. G. Gray, executive officer of the North Texas Oil and Gas Association, to substantiate contentions of discrimination. Against the K.M.A. average of 22.4 bbl. and Hull-Silk of 19.7 bbl., he cited such as Bonita with 100 bbl. per well; Rogers & Rogers, 150 bbl.; Consolidated, 53.9 bbl., and Gulf-McElroy, from 51.5 to 60.5 bbl. with 21 wells averaging 164.5 bbl. As evidence of selective buying, he cited allowables in Walnut Bend and Bonita, in which the purchasing company, Sinclair Prairie, is also the predominant producer, and the Gulf-McElroy field Paul McDermott of Sinclair responded that his company had nominations for 16,000 bbl. in K.M.A. but was getting less and an increase would be "entirely satisfactory."

Granting of the increases would not entirely accomplish the purposes of the hearing, Mr. Gray explained, for the operators "want to stop the trend toward selective buying, which they fear will cause the independent to lose his markets."

Rex Baker, attorney for Humble Oil & Refining Co., plied Mr. Gray with questions to develop data on the stock situation with Mr. Gray answering that gasoline stocks of 85,000,000 bbl., in light of last year's trends, was not a healthy condition. When Commissioner Sadler pointed out that Humble did not purchase in K.M.A., Mr. Baker responded that it was proper at the hearing to consider where the field fits into the general picture "and whether it is advisable to raise this field and not adjust the rest of the fields to bring the state allowable down to a reasonable figure."

I.P.A.A. Urges Removal of Excise Taxes From Venezuelan Treaty

WASHINGTON, D. C., Sept. 24.—Removal of the petroleum excise taxes from the Venezuelan trade agreement as a means of reducing oil imports has been urged by the Independent Petroleum Association of America. Recommendation that the committee on reciprocity information seek exclusion of the petroleum excise taxes from the Venezuelan agreement was made in a lengthy report filed with the body by Russell B. Brown, general counsel of the association.

In supporting the stand taken by the I.P.A.A., Mr. Brown detailed the production holidays in Texas, cited the increase of petroleum imports and called attention to the addition of 113,000 bbl. daily of domestic crude to aboveground stocks since the Venezuela trade agreement became effective. Attention was called to the increase of 76 per cent in petroleum imports for domestic consumption during the first 7 months of this year. The report pointed out that domestic demand had increased only 4.6 per cent in the 7 months and that foreign oil has dispiaced indigenous petroleum in many consuming channels.

Contention that the sacrifices of the petroleum industry entailed by the Venezuela trade agreement had failed to benefit general business in proportion was made by the I.P.A.A. Exports to Venezuela since the trade agreement became effective increased only 9.9 per cent, the report claims, compared with a 30.8 per cent increase from all other South American countries. In addition, imports from Venezuela increased 40.8 per cent while imports from all other countries increased only 9.6 per cent.

The report concluded with an appeal to the committee that it recommend to the secretary of state immediate and effective action for the prevention of future damage resulting from these importations. Details of petroleum imports by countries for 7 months and of general foreign trade with South American countries are contained in the report.

N.L.R.B. Continues Hearing On Houston Pipe Line

HOUSTON, Tex. — Operations of the Houston Pipe Line Co. were the major subject at a National Labor Relations Board hearing held here last week and early this week, the object being to determine whether the board has jurisdiction over the company and if so, if there is need to call an election to select a collective-bargaining agency for its employes.

George A. Hill, Jr., president of the company, on Friday and Saturday testified regarding the company's employment and promotion policies. On Saturday, C. A. Warner, superintendent of the Houston Oil Co., testified regarding oil reserves and amount of production in various fields, while P. F. Martyn, chief geologist of the same company, testified on gas reserves. Earlier in the hearing, which was devoted largely to technical detail, attorneys for the company and for the International Oil Workers Union clashed occasionally regarding the propriety of questioning union officials.

DEATHS

J. J. FLANAGAN, 77, retired foreman of South Penn Oil Co., died at his home in West Union, W. Va., September 20. His widow, a son, and daughter survive.

MILLIARD FILLMORE (PHIL) DAVIS, 88, retired oil company employe, died at his home in Oil City, Pa., September 15. He was first employed rolling barrels for Fisher Brothers on their wharf in Oil City, when the only means of oil transportation was down the Allegheny River to Pittsburgh. He later worked on the erection of refineries at Oil City and Reno and was employed by the Pennzoil Co. until 8 years ago when he was retired. He is survived by his wife, two sons, and three daughters.

ROBERT E. MARKHAM, 52, independent operator of Tulsa, died of a heart attack last Friday at Mount Vernon, Ill., where he was attending to his oil properties. Mr. Markham was a native of Bradford, Pa., coming to Tulsa when he was a young man. His oil experience covers leasing, drilling, contractor, and operator, and covers more than 30 years. His father was the late John H. Markham, Sr., veteran oil operator, and his brother was the late John H. Markham, Jr., another active oil figure. Surviving Mr. Markham are his widow and five sisters.

J. P. ROGERS, 49, district superintendent of United Gas Pipe Line Co. at Jackson, Miss., died last week following an attack of thrombosis. His widow, three sons and a daughter survive.

HERMAN WATSON, 65, retired operator in the Shamburg field in Venango County, Pennsylvania, died at his home at Shamburg on September 17. He is survived by his wife, a brother, and sister.

CLARENCE MORRIS, president and general manager of the Petroleum Engineer Publishing Co., Dallas, Tex., died September 18 in Los Angeles of a heart attack. Mr. Morris, who was 56, was born in Corpus Christi, Tex., and moved to the East while a young man to enter the advertising business. He had been associated with oil publications for a quarter century, including a period of service with The Oil City Derrick, Oil City, Pa., and The Oil and Gas Journal as advertising manager. Since 1929 he had been publisher of Petroleum Engineer. Burial was at Ventura, Calif., on September 20. Survivors are his widow, three brothers, and a sister.

LOUIS GOODRICH BROWN, 86, for many years chief shipping executive of the Galena Signal Oil Co., died at his home in Franklin, Pa., September 16, following an illness of 2 weeks. Mr. Brown retired when the Galena was sold to the Valvoline Oil Co., 6 years ago.

BUHL (RED) BOGGESS, 58, driller and drilling contractor for more than 30 years in the Mid-Continent and West Texas areas, died at Odessa, Tex., on September 16, having moved there from Fort Worth last May. In the early days of the Panhandle field he drilled many wells with the Hinnerman-Boggess Drilling Co. Survivors include the widow, and a son and daughter residing at Shreveport.

THE MARKETS*

CRUDE OIL: The reduction of 10 cents per barrel September 15 in the crude prices posted in several South Arkansas fields by Root Petroleum Co. has not expanded from the local areas affected. Basic conditions elsewhere are sound, although exceptions to the general proration pattern in Texas are pointing to a situation which may need corrective measures in the near future.

REFINERY: Natural gasoline and all grades of fuel oil are the only classes of refined products enjoying improved market conditions. Movement of motor fuel into consuming channels is holding above the expectancy so far in September. The reduction in gasoline prices along the Atlantic coastline has made no deep impression so far in other parts of the country.

TANK-WAGON AND POSTED DEALER: The subnormal tank-wagon price at New Haven, Conn., was elevated 1 cent but the Cincinnati, Ohio, market yielded to local pressure and slumped a cent last week. In general, the interior tank-wagon market is reasonably stable.

FINANCIAL: Oil securities continue to sell over a narrow range. Average of 30 representative stocks for the week ended September 21: High, 22.01; low, 21.39; close, 21.80. Week ended September 14: High, 22.09; low, 21.26; close, 21.43.

*Detailed information in Market Section.

El Dorado Prepares for 25th Anniversary of Oil Discovery

(Continued from Page 25)

a showing of oil and gas was found, but the bond money was exhausted and the attempt was abandoned.

In the meantime, the Wichita Natural Gas Co.—later becoming the Empire and then the Cities Service Co.—became active in the area. It took over the city's leases for a consideration, which included the drilling of a test to at least 3,000 ft. or oil. H. R. Straight, then in charge of the company's activities in the area, made location for No. 1 Stapleton, in SW Section 29-25-5, on September 1, 1915. It was spudded with standard rig September 29 and on October 6 oil was found at 549-557 ft., with a showing of 200 bbl. daily at 660 ft.

News of the discovery caused oil men to flock to El Dorado, and the boom began. While the discovery well was being deepened to meet lease requirements, other tests were drilled to the shallow pay, eight tests being started within a month, and several small, shallow producers were completed.

The No. 1 Stapleton was not completed until February 5, 1916, when it had initial yield of 175 bbl. daily from sand at 2,465-3,511 ft. It proved one of the steadiest producers in the field, continuing to yield oil until its abandonment in 1935.

Development proceeded apace. New pay zones were found, extensions were numerous. By June 1916 more than 200 wells had been completed, some yielding better than 1,000 bbl. daily. Lease prices soared. Supply houses, contractors, rig builders, boom followers located in El Dorado. The first refinery was erected.

Those were wild, fast-moving days. On July 31, 1916, the Empire company established a drilling record when it completed 16 shallow producers within a 24-hour period. The tests were started almost simultaneously, drilled in a week's time and completed the same day.

As 1916 closed, El Dorado had a population of nearly 5,000, and 600 wells with daily output of 12,000 bbl. were nearby.

Thus ended the overture to the big show.

In 1917 and 1918 they really went to town at El Dorado.

This was the era of gushers, the big wells that made the El Dorado field the greatest producing area of that time.

There was no undue excitement when the Trapshooters Oil Co. began work at its No. 3 well, SW NW Section 11-26-4, in May 1917. The company already had drilled a 500-bbl. producer on the lease, and this was just another well. Expecting only an average producer, the company had but limited tankage on the lease. The No. 3 Trapshooters came in in June 1917 and, as the tankage was filled within a few minutes, no exact gage of the initial output was possible, but as the oil flowed into nearby ponds and tanks, guesses ranged as high as 24,000 bbl. daily. Later, after it subsided, the well was completed for 14,000 bbl. daily, flowing.

Only those who have been through a Mid-Continent oil boom can visualize the wild, mad days at El Dorado that followed the performance of Trapshooters No. 3.

The boom reached its crescendo as numerous other gushers, equaling or surpassing the first big producer, were completed.

They came fast and furiously for a time. Trapshooters No. 9 came in for 20,000 bbl. daily and was reported to have put $200,000 worth of oil into the tanks in 12 days' time.

The Gypsy Oil Co., now the Gulf, picked up the note sounded by the Trapshooters and began development of the famous Shumway lease. The first Shumway, in NE Section 11-26-4, came in July 14, 1917, for 180 bbl. an hour, and was a slacker compared with those that followed. A few days later No. 5 Shumway made 700 bbl. an hour, increased to 800 bbl., and was completed for 19,000 bbl. daily. It continued to flow from 10,000 to 20,000 bbl. daily for 3 months, with tools still in the hole. In 222 days of flowing production it produced an estimated 2,500,000 bbl. of oil—and that despite the fact that numerous other wells gaging from 5,000 to 20,000 bbl. were completed on the Shumway tract.

The largest recorded daily production of any well in the field was that of the Empire's No. 22 Enyart, which had initial yield of 22,000 to 25,000 bbl. daily.

Many additional gushers were completed before the boom subsided, and El Dorado settled down to a steady producing area. The production has declined with the years, but last week, nearly 25 years after No. 1 Stapleton came in, the El Dorado wells were good enough to average 7,450 bbl. daily. Production has ranged at around that figure the past year.

It has been a great oil pool, Kansas' largest and seventeenth among the major producing areas of the nation.

As of September 1, 1940, El Dorado had produced approximately 176,400,000 bbl. of oil. On that date more than 1,600 wells in the field were still producing.

Cumulative production for Butler County, including El Dorado, Augusta, and other pools, was more than 300,000,000 bbl. on September 1.

Peak recorded production at El Dorado was 98,908 bbl. daily average in November 1917, with some single day's yield passing the 100,000-bbl. mark.

Greatest annual yield was in 1918, when total production exceeded 29,000,000 bbl.

Total annual production in 1939, some 24 years after the pool's first complete year of production, was 2,710,000 bbl.

Despite that tremendous withdrawal, El Dorado still rates among the leading producing areas in Kansas. Daily average production in the week ended September 21, 1940, was exceeded in Kansas only by the Trapp, Silica, Bemis and Burrton fields.

Butler County still has proven reserves estimated at 52,600,000 bbl., and El Dorado and the other fields will continue to produce for many years, even if no additional reserves are found.

Good authorities say additional reserves will be found, however, and that many additional pools probably will be discovered in the county.

Another El Dorado? Such fields are few and far between—but who knows?

25th ANNIVERSARY PROGRAM

September 30, 1940

9-9:50 a.m.—Music; address by Mayor J. C. Truman; R. H. Kilgore, master of ceremonies.
10:00—State proration meeting, Corporation Commission.
1:40 p.m.—Presentation of Old Timer badges and Grand Old Man contest.
2:00—A.P.I. meeting.
3:00—Unveiling of monument at No. 1 Stapleton, Oil Hill; J. B. McKay, master of ceremonies; presentation of Grand Old Man of El Dorado; address, W. G. Skelly, Tulsa; address and unveiling, H. R. Straight, Bartlesville, Okla.
4:15—Trips through refineries.
4:30—Program at Skelly refinery, J. E. Breese, master of ceremonies.
5:00—Program at Connell farm, followed by barbecue dinner.
7:30-8:00—Band concert, stage show.

A. P. I. Lubrication Group Meets With N. P. A.

(Continued from Page 27)

The chairman and other members of the committee, L. C. Welch, of Standard Oil Co. of Indiana, and R. A. Ludlow, of the American Petroleum Institute, reported on a meeting between representatives of the two industries at Detroit on September 12. The first problem discussed was that of distribution and of the many recommendations of the manufacturers and the oil industry. It was pointed out there is a steady increase in the number of required lubricants and many differences of opinion on their length of service.

Oil-industry representatives showed how simplification would improve the situation, saying the number of products and variety of dispensing equipment was the biggest problem. A survey showed, they said, that a completely equipped service station would have to carry 71 products to meet all recommended lubrication procedures. With the cooperation of the automotive industry representatives, a list of 15 required products and five optional products was adopted which would cover all lubrication requirements in contrast to the previously indicated 71.

The list, approved at that meeting and submitted to the oil industry for a 10-day study, follows: Crankcase, four products; overdrive transmission, two; gear lubricants, two; pressure gun, one; wheel bearing, one; water pump, one; petrolatum, one; special rubber, one; light-bodied shock-absorber fluid, one, and flushing oil, one. Optional products are wet-clutch compound, special spring lubricant, grease stick, heavy shock-absorber oil and hydraulic fluid. It was also suggested that standard pressure-gun fittings be adopted for all cars.

While no agreement was reached on crankcase changes, Mr. Correa reported that the representative of a large automobile-manufacturing company did favor the recommendation of seasonal oil changes and he regarded this as a favorable sign.

In response to their concessions, the automotive industry representatives asked the oil industry to consider the possibility of rating heavy-duty oil for diesel lubrication, etc., and designating them on a basis similar to the S.A.E. numbers used for motor oils. It was suggested that the designation HD be used to correspond to the S.A.E. of motor oils.

●

N.P.A. Pledges Services to Defense Program in Resolution

TRUSTEES of the National Petroleum Association pledged the services of the association and its members to the aid of the national-defense program in a resolution adopted at the association's meeting. The text of the resolution follows:

"Whereas, There is a crisis in world affairs which so vitally affects the interests of the United States as to necessitate immediate and important steps in making secure the defense of this nation, and

"Whereas, The president of the United States has declared a limited emergency to exist and the Congress of the United States, in a series of legislative acts, has provided for the strengthening of our national defenses, and

"Whereas, The president of the United States has set up the Advisory Commission to the Council of National Defense and has appointed seven members to speed the strengthening of our national defense, together with other committees and subcommittees cooperating with the council itself, and

"Whereas, The petroleum industry in its produc-

ing, refining, marketing and transportation activities is most vital to our national defense,

"Now, therefore, be it resolved, That the National Petroleum Association at its thirty-eighth annual meeting at Atlantic City, N. J., this 19th day of September 1940, pledge for itself and its membership full support for the national-defense program, and

"Be it further resolved, That a special committee be elected to act in cooperation with the committees of other petroleum associations and with the Advisory Committee to the Council of National Defense, so that the services of the members of this association may be effectively utilized in the development and execution of the national-defense program, and

"Be it further resolved, That a copy of this resolution be sent to the president of the United States, the secretary of war, the secretary of Navy, the secretary of state, the secretary of interior, and the Advisory Commission of the Council of National Defense."

Members of the committee are N. H. Weber, Pure Oil Co.; C. L. Suhr, the Pennzoil Co.; H. A. Logan, United Refining Co.; Otto Koch, Kendall Refining Co.; F. B. Dow, National Petroleum Association; Paul G. Blazer, Ashland Oil & Refining Co.; W. H. Correa, Socony-Vacuum Oil Co., Inc.; P. H. Curry, South Penn Oil Co.; A. D. David, Bradford-Penn Refining Co., C. M. Davison, Standard Oil Co. of New Jersey; C. E. Foster, Cities Service Oil Co.; H. I. Graves, Tide Water Associated Oil Co.; H. P. Hobart, Gulf Refining Co.; W. T. Holliday, Standard Oil Co. of Ohio; L. P. Lochridge, Sinclair Refining Co.; Samuel Messer, Quaker State Oil Refining Co., and R. G. Sonneborn, L. Sonneborn Sons, Inc.

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N.D.A.C. Gives Views on Antitrust Suit and Defense

(Continued from Page 29)

difficulty in meeting their commitments under government contracts and consequently, the prospect of pipe-line divestiture might delay capital investment in necessary facilities to manufacture the refined products.

The prospective divestiture not only may complicate refiners' contractual commitments, but also may intensify the problem of financing certain additional crude-oil pipe-line construction. In order to safeguard against disruption of transportation in time of emergency, looping of trunk lines and the installation of additional pumping stations is contemplated. Studies to determine the necessary amount of such new construction are now in progress.

The commission wishes it to be understood that this general outline of problems to be met in the working out of the defense program does not mean that it in any way endorses the continuance of alleged abuses in crude-oil pipe-line operation. On the contrary, as has been indicated generally, if there are abuses, it favors their elimination, particularly if they result from illegal combination or conspiracy. However, it does not feel qualified to discuss this phase of the proposed suit.

Capital problems are of course also presented by the proposal to divorce tanker facilities. A large proportion of the present tanker capacity of about 4,100,000 deadweight tons is approaching the end of the 20-year period of useful life. The supply of crude oil to the refineries by tankers must be safeguarded. However, it would appear that there is no absolute shortage of tankers foreseeable at the present time since new tankers already under construction plus tankers now chartered in foreign service which could be put in domestic service would probably meet our needs. The direct needs of the Army and Navy probably would not require a large proportion of the tanker capacity.

In this general regard, you are advised that there is in the process of negotiation under the auspices of the Maritime Commission and the Navy Department an arrangement for allocating equitably as between the various companies the burden of supplying tankers to the Navy in time of emergency. If the suit is filed in the manner proposed, negotiations will have to cease. If effect is given to the proposal in the draft prayer, a new program will have to be devised and negotiated with the possibility of increased cost to the Government.

III The American Petroleum Institute

The commission, in its technical study of defense requirements, does not have to rely on trade associations for information and contact with their respective industries. It is true, of course, that the Institute provides information on petroleum statistics which are not now available elsewhere, and arrangements would have to be made to supply this need.

IV Conservation of Crude-Petroleum Resources

Military authorities have estimated that during war the requirements for petroleum products would increase about 25 per cent above normal peacetime needs. On the basis of the 1939 consumption of crude petroleum of 1¼ billion barrels, an emergency would lead to additional needs for somewhat more than 300 million barrels a year. These estimates were made before the adoption of recent plans for expansion of the air force and extended mechanization of the land forces and are constantly being revised upwards.

Our present reserves of crude petroleum have been variously estimated but probably approximate something in the neighborhood of 18 billion barrels. Consequently, there is no immediate problem of an overall shortage of the basic raw crude though, as has been indicated, there may be problems with respect to certain crudes peculiarly valuable for military or naval use. The expansion, mechanization, and rigorous training of the armed forces would certainly bring about a vast acceleration in the rate of production. If this is not accompanied by sound methods of conservation, a protracted emergency would seriously diminish the oil resources of the country. Sound conservation is of the utmost importance to any adequate defense program.

It must be remembered that the problem of crude reserves is not solely one of the amount of oil in the ground. The effect of increasing production per well would be a lower ultimate recovery. As time goes on, the lifting cost of the crude substantially increases and fewer barrels per day are recovered. Thus, though by simple arithmetic it would appear that the country's reserves are good for more than 10 years under emergency conditions, declining production and higher prices for petroleum products will arrive long before exhaustion of reserves unless the discovery rate is maintained and production is effected with a minimum of waste. The possible adverse effects upon the Government and the consumer are clear.

In recent years, an expanding national demand for petroleum products has been met by the discovery of new sources of petroleum approximately equaling the amount of products consumed per year. It appears vital that this rate of discovery remain unaffected. More and more, the business of prospecting for oil has come to depend on the availability of large capital resources. In the first instance, it seems that reduction of the size of the existing units in the industry will leave less capital available for exploration. Secondly, although the intendment of the draft complaint, and particularly Paragraph 17 of the prayer for relief is not clear, the power of the companies named as defendants to develop additional reserves may be inhibited.

In addition, a development widely endorsed by federal and state conservation authorities has been the organization of a newly developed oil field on a unit basis. The proposed suit would apparently prohibit such activities many of which are now carried out under the supervision of the Department of the Interior. These unit plans are deemed a major force in conservation since they reduce the number of wells to be drilled, conserve gas or hydrostatic pressure, and otherwise conduce towards scientific production. This, of course, means lower investment costs per barrel of ultimate production and insures generally lower production costs and higher ultimate recovery of oil.

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Commissioner Pledges No Hot Oil Production

(Continued from Page 33)

portation, a major part of the production is moved by barges. Tenders for this movement will require sworn statements from shippers as to the source of the oil, date of shipment and destination and consignee. These will be checked against the allowable schedules of the producers of the oil. Tenders, Major Hardey said, will apply both to intracoastal and intercoastal shipments.

Louisiana's new conservation law, among other things, provides drastic penalties for the production of any oil or gas in excess of that authorized by the Conservation Department.

"There will be no 'hot oil' production in Louisiana," Major Hardey emphasized.

The new conservation law delegates wide, sweeping "police" powers and authority in the administration of conservation and proration and prevention of waste. Major Hardey definitely indicated these powers and this authority will be exercised strictly and impartially. As an operator in his own right, and thoroughly familiar with development and production problems, he said he accepted his position under appointment of Gov. Sam R. Jones solely to perform a service to the state in helping bring order to the oil industry.

Operators of the state generally are displaying an attitude of complete cooperation with the new administration in launching its new conservation program, he said. This was indicated in the proration hearing, where practically all operators expressed a willingness to accept any pro rata curtailment necessary to bring production within market demand. Operators also are working with the department in working out spacing and pooling arrangements in various fields as provided in the new conservation law.

Still more effective administration of conservation and proration is expected to be made possible if the electorate of the state at the election November 11 approves the proposed constitutional amendment voted at the last session of the legislature providing for reorganization of the departmental setup of the state. In the proposed reorganization, administration of oil and gas proration and conservation will be divorced from the present Department of Conservation under a separate Department of Minerals. The new department will absorb the present state Mineral Board, which has supervision over the leasing of all state lands for mineral purposes, thus bringing together two different branches of the government, whose activities are directly related to the development and production of oil and gas, as well as other mineral resources.

Refinery Expansion

Consider Construction of $200,000 Refinery at Falls City

Construction of a refinery at Falls City, Neb., is under consideration by Omaha and California interests. Preliminary plans announced by Robert C. Druesedow of Omaha, an investment banker, call for a plant costing approximately $200,000. Mr. Druesedow said the project will be undertaken by a group of Nebraskans and associates. Curtis Flint, Haynes, Calif., refiner, and Walter Steiner, Flint's superintendent, were to have visited Omaha this week to discuss construction plans.

Imperial Refining Merged With Mid-West Refineries

GRAND RAPIDS, Mich.—Imperial Refining Co. has been merged with Mid-West Refineries, Inc., effective immediately, it has been announced by B. J. Skinner, president of Mid-West. Business will be conducted as usual at the Alma and Grand Rapids offices. The merger resulted in Mid-West becoming the largest independent processor of Michigan crude, as it now operates four refineries with a total crude capacity of 10,500 bbl. daily.

Present capacity of the Mid-West plant at Alma is 3,200 bbl. with a 1,200-bbl. cracking capacity; the former Imperial plant at Grandeville has a 4,000-bbl. crude capacity, and the plant at Dewey 2,000 bbl. The company is also operating under lease the plant of Northern Refining Co. (of 2,000-bbl. capacity) at Alma. Contracts for the installation of 2,000-bbl. cracking units at the two former Imperial plants have been signed.

Plan to Erect Skimming Plant at Yazoo City

Prince Brothers, drilling contractors of Electra, Tex., are planning to erect a 2,000-bbl. capacity skimming plant at Yazoo City, Miss., to process crude from the nearby Tinsley field. The project is capitalized by Yazoo City and other local parties. It is reported that an East Texas refinery, now shut down, will be dismantled and moved to Yazoo City. Consummation of the plans is expected to be announced shortly.

Refinery Chemists Must Register Qualifications

The American Chemical Society, with members in excess of 25,000, has accepted the responsibility for securing the names and qualifications of every chemist or chemical engineer in the United States. This is being compiled at the request of the offices of the president and will serve as a basis for properly locating men in the war-preparedness program. The extent to which relocations or assignments are made will depend upon the extent of the emergency. Oil-refinery operations are considered among the most essential in the Government's program so that a sound and complete technical staff of refinery technologists will be maintained against any odds that might arise.

Ashland to Expand Plant, Transportation Facilities

ASHLAND, Ky.—A program calling for an expenditure of $650,000 for expansion of its plant and river-transportation facilities has been announced by the Ashland Oil & Refining Co. of this city. Paul G. Blazer, president of the company, said the program would give employment to 100 men in the construction of new equipment at the Leach refinery, near here. This work will increase the refinery's 10,000-bbl. crude-oil distilling capacity by 25 per cent and its production of gasoline from 3,500 to 6,000 bbl. per day.

The company will also build a $250,000 tow boat and two 9,000-bbl. barges to cost $50,000 for use in supplying new territory up the Ohio River as far as Pittsburgh, Pa.

A new vacuum-flash unit for the production of asphalt for road-building and industrial purposes is included in the program at the refinery. Facilities for the shipment of asphalt in drums are to be added. Additional equipment for the generation of steam is included in the new program as well as new storage tanks having an aggregate capacity of 120,000 bbl. of oil.

Mid-Continent Completes Tulsa Plant Addition

Installation of more than $1,000,000 worth of modern refining equipment at its West Tulsa refinery for the production of its new motor fuel has been completed by Mid-Continent Petroleum Corp.

Natural Gas

F.P.C. Orders Hearing on Gas Rates in Camden, Ark.

A public hearing on gas rates charged in Camden, Ark., has been ordered by the Federal Power Commission for October 11 in Washington, D. C. The hearing was called on complaint of the Camden Gas Corp. against the Arkansas Louisiana Gas Co., charging discrimination in rate charges as compared with those levied in other South Arkansas communities.

United to Build Carbon-Black Plant at Aransas Pass

HOUSTON, Tex.—Construction on a new carbon-black plant for the United Carbon Co. about 2 miles north of Aransas Pass is expected to get under way immediately. Clearing of site was done last week and the plant is expected to be placed in operation soon after the first of the year. The plant will utilize residue gas from the Natural Gasoline Corp. 50,000-M.c.f. gasoline plant in the McCampbell field, 2½ miles west of the plant site. Location of the new plant is on the east end of Block 235, Burton and Danforth subdivision.

Community Seeks S.E.C. Permission To Purchase Texas Cities

WASHINGTON, D. C.—No increase in consumer rates would result from the purchase of the Texas Cities Gas Co. by Community Natural Gas Co., D. A. Hulcy, president of Lone Star Gas Co., Dallas, Tex., told the Securities and Exchange Commission last Saturday. Lone Star, which owns both companies, is seeking permission for Community Natural to purchase Texas Cities for $8,769,241. Such a transfer, he said, would be only a "book transaction" on the accounts of Lone Star and would have no effect on Lone Star's capital structure, hence the transaction would not be a circumvention of the holding-company act.

Texas Cities serves about 43,000 customers in El Paso, Galveston, Waco, Paris, and Brenham, Tex. Cost of the properties operated in the five cities was $10,087,271 as of April 30, 1940, Mr. Hulcy said, including additions from date of acquisition in 1928. Depreciation, however, has reduced the value to the proposed purchase price, he said.

News of Pipe-Line Activity, which is usually found on this page, will be found on Pages 76-77.

Cooper Gas Co. Will Lay Line to San Angelo, Tex.

Cooper Gas Co. approved plans for laying a 45-mile 6-in. line from El Dorado, Tex., to San Angelo, Tex. The line will serve an Air Service training station located near San Angelo, Tex.

F.P.C. Urged to Approve Tennessee Gas Line

WASHINGTON, D. C.—The Federal Power Commission on Monday was urged by Curtis B. Dall of New York to approve his plans for a $20,500,000 natural-gas pipe line from Louisiana fields to Tennessee and North Carolina. He was the first witness at the hearing which opened Monday morning and will continue several days. Identifying himself as a New York investment banker and president of the Tennessee Gas & Transmission Co., which seeks authority to pipe the gas to Chattanooga, Nashville, Knoxville and other Tennessee cities and Asheville, N. C., he said the company could offer wholesale rates that would allow sharp reductions in charges to retail consumers. The company's headquarters are at Chattanooga.

Mr. Dall said no natural gas was being sold in Tennessee except in the western part of the state, including Memphis and Jackson, and that with the Tennessee Valley territory "developing rapidly" the availability of the gas would augment power available for defense projects.

Northern Natural Lays Line in Nebraska

Northern Natural Gas Co. is planning to lay a 11-mile lateral from a point on its system near Ralston, Neb. The line will run to Boys Town, Neb.

Natural Gasoline

Agua Dulce Recycling Permit Granted by Commission

AUSTIN, Tex.—Authorization of the construction and operation of a gas-recycling plant in the Agua Dulce field of Nueces County, Texas Gulf Coast, was issued to George P. Sheldon of Corpus Christi by the Railroad Commission on Monday. Residue gas is to be returned to the producing horizon after its condensate content is extracted.

Contract Awarded for Cotton Valley Recycling Plant

SHREVEPORT, La.—Contract for the construction of the cooperative gas-recycling plant in the Cotton Valley field of Webster Parish, North Louisiana, has been awarded Hudson Engineering Co., Houston, Tex. The plant, which will be about 150,000-M.c.f. capacity from which about 10,000 gal. of stabilized distillate will be produced, will be constructed on a turn-key basis. The new plant is made possible through unitization of the entire lower Marine production of the field and authority for erection, operation and maintenance of the pressure-maintenance project is in the hands of an operators' committee. The plant is expected to be in operation by February or March, 1941.

PROGRAMS AND MEETINGS

East Texas Chapter A.P.I. Meets October 9 in Kilgore

The East Texas chapter of the A.P.I. will hold a meeting in the High School Auditorium at Kilgore, Tex., on October 9 beginning at 8 p.m. The following day is the start of the 3-day celebration planned by city of Kilgore commemorating the tenth anniversary of the East Texas oil field.

The principal speaker will be George A. Hill, Jr., president of the Houston Oil Co. of Texas, and chairman of the Division of Production of the A.P.I. Mr. Hill's subject will be on the very timely subject of "The Place of Petroleum in the National Defense."

Special entertainment will be furnished by the program committee of the oil festival.

In view of the outstanding importance of this meeting, the following organizations are cooperating: East Texas Section of A.I.M.E., East Texas Geological Society, East Texas Oil Association, Kilgore Chamber of Commerce, Kilgore Junior Chamber of Commerce, Kilgore Rotary Club, Kilgore Lions Club and Kilgore Kiwanis Club.

Barrett Will Address Tulsa A.S.M.E. On Equipment Development

D. O. Barrett, chief engineer for the Gulf Oil Corp. in Tulsa, will address the American Society of Mechanical Engineers on October 7, 5:30 p.m., in Tulsa, at Michaeles Cafeteria. His paper will discuss "Practical Developments in Oil Field Equipment."

Several exhibits of equipment development during the past 3 years under Barrett's supervision for the handling of salt-water disposal and corrosion prevention will be shown. Included also will be an interesting discussion on the American Petroleum Institute's work the past 3 years on gear boxes and gas engines.

Salt-water corrosion problems have received experimental studies under the direction of Mr. Barrett during the past 3 years in Kansas where he acted in the capacity of division engineer and assistant superintendent for the Gulf Oil Corp.

E. C. Baker, president of the Mid-Continent section of the A.S.M.E., will be program chairman.

Petroleum Accountants Will Hold Fall Meeting and Elect Directors

The Petroleum Accountants Society of Oklahoma will hold its first meeting of the next fiscal year on September 26, in the Crystal Ballroom, Mayo Hotel, Tulsa.

Three new directors will be elected for a period of 3 years to succeed those now retiring from the board, composed of nine members. The newly formed board will then elect officers to serve for the ensuing year.

Reports will be made by retiring officers and standing committees. R. L. Rush, of the Sinclair Prairie Oil Co., chairman of the committee on uniform accounting for the oil industry, will report on what may be expected of that important committee during the coming year.

Gerald B. Klein, president of the Tulsa County Bar Association, and a member of the law firm of Goldesberry & Klein, will deliver an address on the topic "Fundamental Principles Used in Dealing With People." Mr. Klein is also an instructor in both law and the Dale Carnegie course in public speaking at the Oklahoma School of Business, Accounting, Law and Finance, and is well qualified to present this interesting subject.

Conference Set to Highlight National Chemical Exposition

New discoveries and developments in the service of chemistry and its application and progress in many fields of activity will be discussed by foremost authorities in America at an industrial chemical conference, which will be a feature of the National Chemical Exposition to be held December 11-15 at the Stevens Hotel in Chicago.

Directors of the exposition, sponsored by the Chicago section of the American Chemical Society, believe that its objectives may be enhanced by furnishing the latest scientific information as well as practical education that will result from a visit to the exposition.

"We have arranged for this industrial chemical conference an excellent program of papers in the nature of symposia on 'Newer Developments in Chemistry and Chemical Engineering'," said Dr. R. C. Newton, chairman of the show committee. "The program is timed to afford those who wish to hear the talks in which they are interested ample opportunity also to view the show."

CALENDAR OF EVENTS

September

OIL AND GAS EXPOSITION, sponsored by West Virginia Oil and Natural Gas Association, Municipal Stadium, Charleston, W. Va., September 30-October 5.

LIQUEFIED PETROLEUM GAS ASSOCIATION, Omaha, Neb., September 30-October 1.

NATIONAL LUBRICATING GREASE INSTITUTE, annual convention, Stevens Hotel, Chicago, September 30-October 1.

October

NORTH AMERICAN GASOLINE TAX CONFERENCE, Whitley Hotel, Montgomery, Ala., October 3-5.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Wichita, Kans., October 4.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., October 7-10.

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, fall convention, Hotel Severin, Indianapolis, Ind., October 9-10.

AUTOMOBILE MANUFACTURERS ASSOCIATION, Auto Show, New York, October 12.

SOCIETY OF AUTOMOTIVE ENGINEERS, annual dinner, Hotel Commodore, New York, October 14.

NATIONAL STRIPPER WELL ASSOCIATION, Dallas, Tex., October 15.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, eleventh annual meeting, Dallas, Tex., October 16-18.

PETROLEUM DIVISION, A.I.M.E., Los Angeles, Calif., October 17-18.

AMERICAN WELDING SOCIETY, annual meeting in conjunction with National Metal Exposition, Hotel Cleveland, Cleveland, Ohio, October 20-25.

PETROLEUM DIVISION, A.I.M.E., October 24, 25, and 26, Tulsa.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Shreveport, La., October 25.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, annual convention, celebrating Texas oil's forty-fifth birthday, Fort Worth, Tex., October 31-November 2.

SOCIETY OF AUTOMOTIVE ENGINEERS, national aircraft production meeting and engineering display, Hotel Biltmore, Los Angeles, Calif., October 31-November 2.

November

CALIFORNIA NATURAL GASOLINE ASSOCIATION, Los Angeles, Calif., November 1.

SOCIETY OF AUTOMOTIVE ENGINEERS, National Fuels and Lubricants Meeting, Mayo Hotel, Tulsa, November 7-8.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Los Angeles, Calif., November 7-8.

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, November 11-15.

ARKANSAS OIL DEALERS ASSOCIATION, Little Rock, Ark., November 14.

December

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, New Orleans, La., December 2-6.

NATIONAL ASPHALT CONFERENCE, Adolphus Hotel, Dallas, Tex., December 9.

NATIONAL CHEMICAL EXPOSITION, Stevens Hotel, Chicago, December 11-15.

1941

January

SOCIETY OF AUTOMOTIVE ENGINEERS, annual meeting and engineering display, Book-Cadillac Hotel, Detroit, Mich., January 6-10.

February

NORTH TEXAS OIL AND GAS ASSOCIATION, Wichita Falls, Tex., February 22.

IOWA INDEPENDENT OIL JOBBERS ASSOCIATION, Des Moines, Iowa, February 26-28.

AMERICAN PETROLEUM INSTITUTE, southwestern district regular spring meeting, Washington-Youree Hotel, Shreveport, La., February 27-28.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Hotel Mayflower, Washington, D. C., March 3-7.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, spring convention and refiners and suppliers' exhibit, Hotel Severin, Indianapolis, Ind., March 11-13.

AMERICAN PETROLEUM INSTITUTE, Pacific Coast District, Division of Production, regular spring meeting, Biltmore Hotel, Los Angeles, Calif., March 11.

April

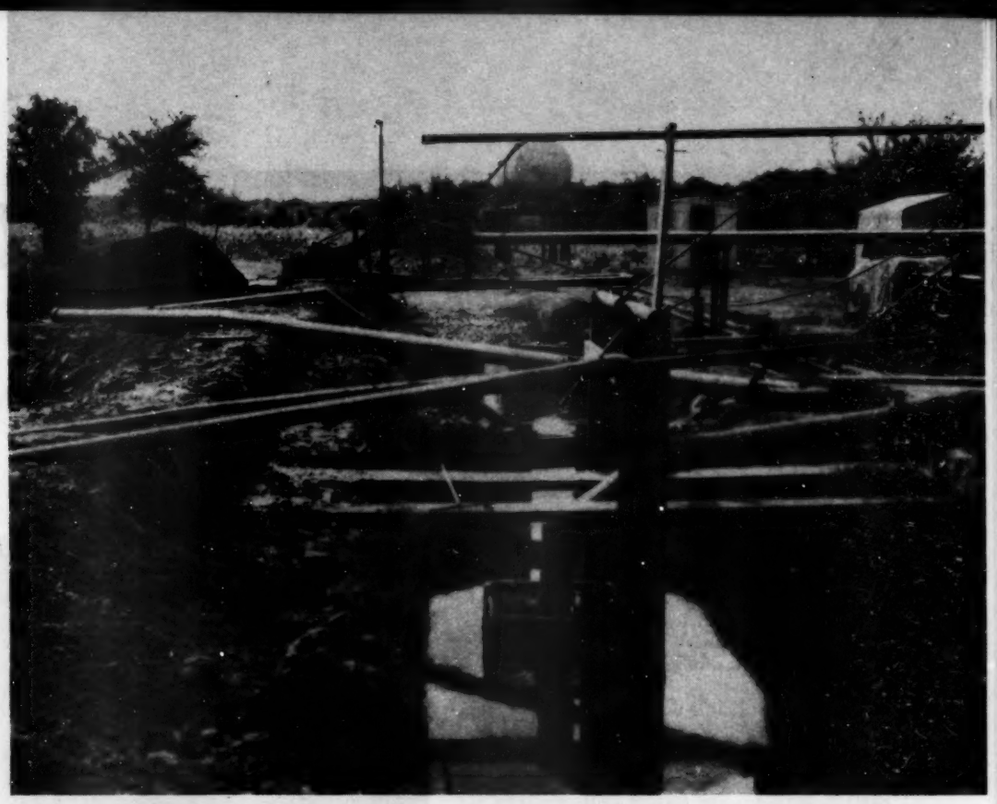
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-sixth annual meeting, Rice Hotel, Houston, Tex., April 2, 3, and 4.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, spring convention and trade exhibit Hotel Severin, Indianapolis, Ind., April 11-13.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, regular spring meeting, William Penn Hotel, Pittsburgh, Pa., April 17-18.

NATURAL GASOLINE ASSOCIATION OF AMERICA—Annual convention, Baker Hotel, Dallas, Tex., April 23-25.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.



Some operators are now using single instead of double pits for the drilling mud. This is made possible through the use of a vibrating screen and close supervision of the drilling fluid. The flow line from the well to the vibrating screen can be seen in the background and the shale separated from the mud can be seen in the upper left of the picture. Only one jet out of the circulating pit is used, the pipe running from the center right to upper left being the jet from the cellar

ENGINEERING & OPERATION

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Drilling mud and mud treatment in recent years have assumed the proportions of a major problem in rotary drilling as failure of many wells to reach their objective may be directly attributed to some deficiency in drilling fluid. In this first article of a series by the author, purpose of drilling mud, mud systems, and types of pits are described.

POLAROGRAPHIC DETERMINATION OF LEAD IN GASOLINE
By H. A. Frediani and L. A. Bass ..... Page 51
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METHODS OF REDUCING ACCIDENTS AT PIPE-LINE PUMPING STATIONS
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SIXTH RECYCLING PLANT IN AGUA DULCE AREA PLACED IN OPERATION
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Designed for double-pressure operation, with a daily capacity of 100,000 M.c.f., Gulf Plains Corp.'s new recycling plant on the Texas Gulf Coast is injecting gas into five separate sands.

AUTOMATIC ROD-LINE KNOCK-OFF CUTS OPERATING COST OF STRIPPER LEASE
By T. P. Sanders ..... Page 67
Faced with having to lower operating costs or abandon his stripper properties, one operator devised an automatic arrangement to disconnect wells from the central power at the desired time.

SAFETY: Steel Fourble Board Prevents Injuries ..... Page 52
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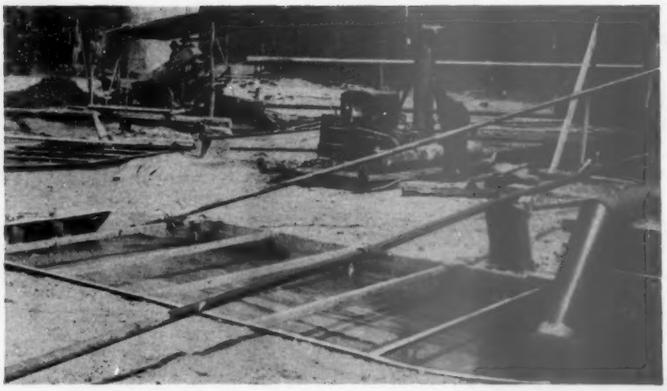


Tanks 16 by 8 by 6 ft. placed in the ground on a well in southern Oklahoma. Flow line can be seen running from upper right to vibrating screen at left. Jets in settling pit connect to reserve pit

Purpose of Mud Used in

By HARRY F. SIMONS

This is the first of a series of articles on drilling mud which will appear in The Oil and Gas Journal. The subject will be treated broadly and will include the factors which affect the use of mud as well as mud application and treatment. This series is based on studies made in the fields by Mr. Simons. The author gratefully acknowledges assistance given by those who are familiar with the various subjects discussed.

Above: Pits on an Illinois well are laid in the form of a V instead of an L. The discharge from the surface pipe is at the left while the pump is located at the lower right of the photograph

Right: Smooth even flow of mud allows the cuttings to settle out in the pit. Mud is prevented from channeling by burlap sacks nailed to board placed across the pit

IN many respects it is unfortunate that the name "rotary hydraulic," applied to the rotary method of drilling at the time of its introduction in the Spindletop field, was dropped in favor of the shorter "rotary." The former fully describes the process and gives equal importance to the two main factors involved in modern rotary drilling. The hydraulic part of the operation was not given less attention than the mechanical, but advances in the latter were more rapid. In recent years mud and mud treatment has assumed the proportion of a major problem.

The main reason for the concentration of attention on mud has been the fact that the failure of many wells to reach their objective was due to some deficiency in the drilling fluid. While it has been possible to increase the efficiency and safety of the surface and subsurface machinery, the same is not entirely true of the drilling fluid, principally because of the variable conditions encountered. The weight to be lifted by a hoist or the strain to be placed on drill pipe may be calculated to a fine point and then an adequate allowance made for safety but the exact conditions to be overcome by the drilling fluid are often not known until a particular situation is encountered.

There can be no all-purpose drilling mud because the tasks imposed on the mud are different in each well and with each operator. In one case the mud may be designed primarily to increase the rate of penetration, in another it may be to prevent blowouts and in a third case it may be to prevent caving. The best mud, in any case, is the one which will allow drilling to proceed as rapidly as possible with the minimum chance of trouble.

Until recent years, it was the practice to allow the mud to take care of itself with no attempt being made to control any of its physical properties. It was evident that the drilling rigs with better mud (heavier and thicker) had less trouble with sticking and caving than those using lighter mud, although the latter were able to make hole faster. However, the users of light mud often got into considerable difficulty and lost numerous days pulling on stuck pipe, attempting to get over a fish or get in and out of the hole. There thus developed two schools of thought in the drilling industry, the heavy and light-mud groups, but still the terms heavy and light were undefined.

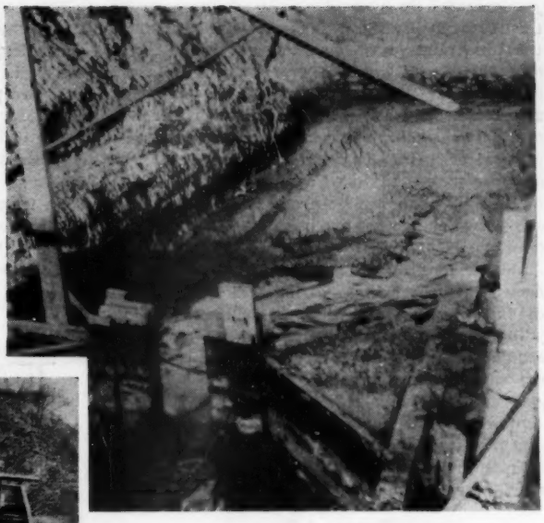
Careful contractors, operators and drillers began paying more attention to the mud although at times the latter were at crosspurposes with the former. The driller, in his attempt to log up as much hole as possible, frequently violated the instructions of the operator or drilling contractor, and ran more water into the pits than was necessary, or wise, under the circumstances. It did become the practice to weigh and test the viscosity of the mud.

Admixtures of various types have been used for a number of years to obtain certain desired effects and in recent years a wide range of chemicals have come into use. Large quantities of inert materials have been used as a plugging agent to seal off porous formations. At the present time, hardly a well is drilled that does not use some type of admixture, chemical or inert material. The amount used depends on the individual operator and on the particular difficulty to overcome.

The tendency at this time is to develop a mud plan for each particular field, the object being to reduce the cost and time required to drill a well and the elimination of difficulties while working in the hole. Each field has had a certain set of conditions which will require special mud conditioning if trouble is to be avoided. Careful recording of these conditions in the first wells drilled in a field, their depth of occurrence, the symptoms of trouble and the methods used in an attempt to overcome the difficulty, and the results in each case, will establish the proper mud procedure for that particular field and often for a particular area. In some fields admixtures must be added before surface hole can be successfully drilled and the surface casing landed; in other fields, admixtures and/or chemicals may not be needed until a considerable depth has been reached.

The problem is strictly an economical one, although all the items involved are difficult to evaluate. Wells were being drilled years ago by the rotary method without any attention being paid to the mud but, as pointed out before, a large number of holes were junked simply because of poor mud conditioning. Saving of one well with an investment of $10,000 to $150,000 would more than pay for mud treatment necessary on dozens or even hundreds of wells. The loss of a week's time spent in trying to free stuck pipe would amount to much

Drilling Fluid Rotary Wells



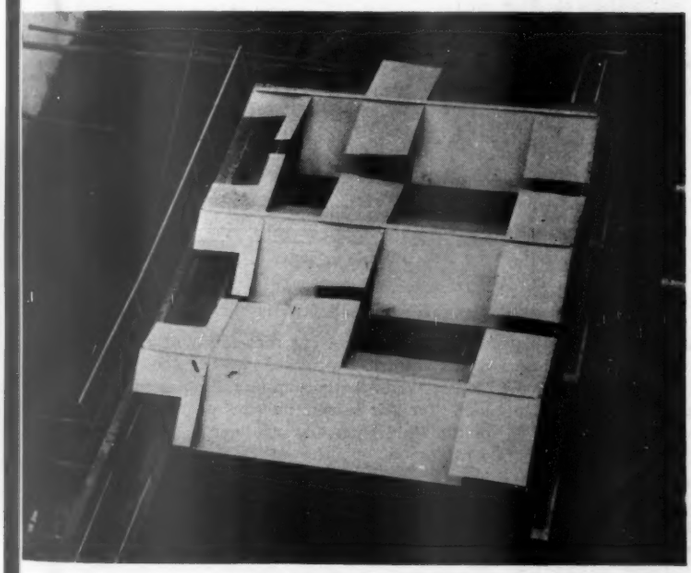
Wing-type partitions in pit. Note that the mud has channeled and the stream has sufficient velocity to carry cuttings

more than the purchase of the necessary admixtures to prevent sticking. Necessity of reaming while attempting to get over a fish, or washing down to the fish, often complicates and unnecessarily delays the job. The extra 30 minutes required to pull through the tight spots while coming out of the hole, or the half hour spent in reaming while attempting to get a new bit on bottom, run up the cost of drilling the well and this time and money could have been saved if the mud were properly conditioned. The cost and time required to replace liners and pistons in the pump add to the expense of drilling and there are also the more intangible costs due to wear on drill pipe and bits by poorly conditioned mud.

Another saving in time through mud control is effected when the casing point is reached. If the mud is in satisfactory condition, the electrical log can be obtained and the casing run without delay while several days may be needed to properly condition the mud if it is of poor quality.

Proper mud conditioning has made it possible to drill wells to great depths without the aid of intermediate casing strings. The saving of $15,000 worth of pipe is only possible through careful and continuous supervision and the maintenance of the proper physical characteristics in the mud and generally a competent mud engineer is employed for this special task. Amount of open hole carried has been forced upward from the 5,000 ft. believed to be hazardous 10 years ago. In many fields mud bills running into thousands of dollars have been reduced by a well-planned mud program.

In some areas the advantage to be gained from proper mud treatment transcends the economical and becomes a necessity. In the Gulf Coast the presence of heaving shale and high-pressure gas sands makes it necessary to keep the mud within a very narrow weight-viscosity-water-loss range.



Above: Tanks 30 by 8 by 10 ft. placed above ground on an Illinois well. Vibrating screen is at far end of tank on right, while pump suction is at the upper left in the photograph. Note partition (baffling) intakes which prevent channeling and reduces the velocity of the fluid

Left: View from above of tanks used on well being drilled to 11,000 ft. in the Gulf Coast. The tanks are connected by a manifold and cleaned periodically. Open lines at left are jets for moving mud from tanks to reserve pit

Purpose of Mud

The drilling fluid was originally pumped in and out of the hole to remove the cuttings loosened by the bit and this is still its primary function. The mud must also do the following: (1) Prevent blowouts due to gas or water-bearing formations. (2) Keep the fluid from entering the formations penetrated. (3) Suspend the cuttings in the hole while the pump is shut down. (4) Eliminate caving of the hole. (5) Reduce the weight of drill pipe or casing to be handled by the hoist. (6) Clean, cool and lubricate the bit. The mud must also allow the cuttings to settle in the pits so they will not be recirculated.[1]

The cooling of the bit is a task that can be performed regardless of the quality of the mud and actually clear water would probably be a more efficient medium. The lubrication of the bit by the mud is also of very little importance and much greater lubricating efficiency could be obtained if it were possible to exclude the mud from the bit bearings. Except for keeping the mud as free from sand as possible, little attention is paid to this work of the drilling fluid.

The same is true of reducing the weight of the pipe being handled, as this reduction is due entirely to buoyancy, and while the specific gravity of the fluid effects it, mud is seldom treated for this purpose. Actually, the use of floats and allowing part of the pipe to remain empty accomplish all that is desired in this direction.

The other qualities listed above are required in varying degree from time to time and power of the mud to perform a special duty may be increased by treatment. The essential qualities for performing each task and the manner of treatment necessary to obtain them will be discussed subsequently.

Mud System

Essentially the mud system on a rotary rig consists of a pump, drill pipe and pits for storing the fluid. The pump picks up the clean fluid from the pit, exerts a pressure on it, discharges it through the lines into the standpipe, and through the hose and swivel into the drill pipe. On reaching bottom the fluid cleans the bit, picks up its load of cuttings, returns to the surface through the annular space and there is emptied into the pits where the cuttings are allowed to settle before the mud is again circulated.

It is apparent that the mud, while traveling this route, is subjected to a wide degree of conditions, being first placed under pressure, passed through numerous small openings and around many bends, heated by the increase in temperature with penetration of the earth's crust, and the pressure gradually released from the fluid as it rises to the surface. At times circulation is stopped and the fluid allowed to set in the hole for 10 minutes, several hours or even days.

In addition to essential items mentioned above, the mud system often includes a vibrating screen or a shale shaker which removes the cuttings from

jets operated by hydraulic or steam pressure for the removal of the cuttings and the mud from the pits, mud guns for stirring the mud, machines for degassing the mud, reserve pits for storage of excess mud, mixing pit for preparing admixtures to be added, jet-type mixer, water connections for adding water and barrels for the mixing and addition of any chemicals used. If two or more pumps are used a manifold is provided for quickly changing from one pump to another and if two standpipes are used, a switching valve is provided.

Most wells are equipped with a fillup line connected into the surface casing which will allow the hole to be kept full while the drill pipe is being withdrawn. In areas where there is any danger of a high-pressure gas the fillup line is connected to the surface pipe immediately above the master gate and below the flow line and blowout preventer. The flow line is equipped with a gate valve, thus making it possible to kill the well through the fillup line by closing the blowout preventer and flow-line valve.

Types of Pits

Due to the difference in design of the rigs now in use, no standard pit layout is used, although the location of the pits is confined to the low side of the rig. In areas where the time required to drill a well is short, the circulating pits will be quite large while the reserve pit will be small. In deeper areas and in fields where from 1 to 6 months is required to drill a well, the circulating pits may be small but the reserve pit will be large, in fact several additions may be made to the reserve pit in an effort to save as much base mud as possible. One advantage to be gained from small pits is the ease of controlling the qualities of the mud in the system; the amount of admixture or chemicals needed to produce any desired effect is reduced.

Most steam rigs use double pits about 80 to 100 ft. long, 10 to 14 ft. in width and approximately 6 ft. deep. The mud from the flow line is emptied into the pit farther away from the rig, flows the length of that pit, through a ditch into the next pit and back to the pump suction. These pits may be parallel to the engine and hoist or may be at right angles to them.

Most power rigs use two pits forming a 90° angle. One pit is located with its center approximately 45 ft. from hole and lies parallel to the hoist, engines and pump. The center of the other pit is 45 ft. from the hole and back of the hoist engines and pump. Another method is to place the pits at an angle in which case they are similar to parallel pits. The reserve pit is generally located adjacent to the pit which receives the mud from the flow line, although the terrain may alter this. Design of the pits is often affected by the type rig and whether the pump has a side or front suction.

Some operators have cut the size of the pits in half by eliminating the second pit. This can be done on steam rigs, electrical rigs, mechanical rigs having separate prime movers and on any rig used on a substructure. A rig on a substructure allows the flow line to be elevated and the mud can be delivered to any point within a radius of several hundred feet. Otherwise the mud pump must be located at the end of the pit farthest away from the hole.

Of 12 rigs visited in one field recently, four had angle-type pits, four had double pits, three had single pits and one had tanks buried in the ground. Use of tanks has increased in recent years, although generally they are found where some local problem interferes with the digging of pits. Tanks above ground can be used with derricks on a substructure and offer an important advantage as the suction of the pump is flooded and its fluid capacity increased.[2,3]

The number of partitions installed in a pit and their construction is also a matter of preference or is dictated by the conditions and the depth of the well. On shallow wells (less than 2,000 ft.) only two partitions may be used, while on deeper wells four or six partitions may be installed.

The design of the partitions greatly influences the ease with which the mud may be handled and facilitates or hinders the settling of the drill cuttings from the mud. Even in cases where a vibrating screen is used, fine particles of sand remain in the mud and it is essential that they be settled out of the mud before it is again picked up by the pump. The partitions, by decreasing the velocity of the mud and creating eddies, aid in this work. The pits are divided by the partitions into separate compartments, the one which the mud enters first being called the shale pit and the others the settling pits.

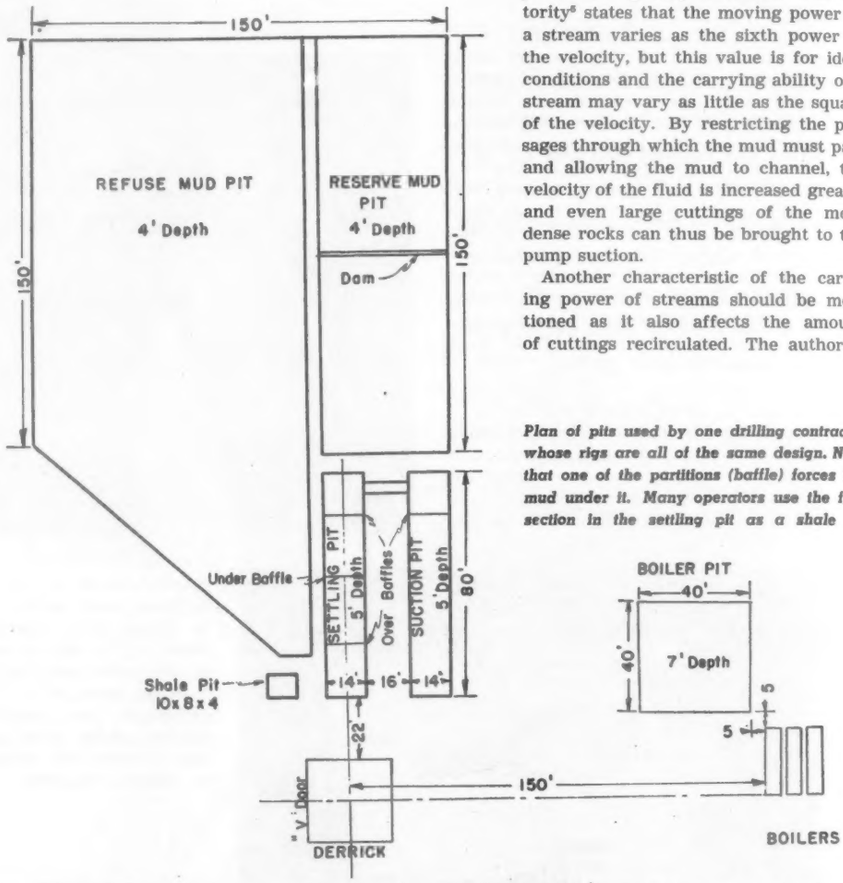
Unfortunately, conditions under which the partitions are constructed do not permit the installation of the most efficient type. For the shale pit, many operators construct a partition of two board walls approximately a foot apart and fill the intervening space with dirt. Care is taken to keep the top boards level, thus making the mud flow over it evenly. In some cases concrete partitions have been used at this point.

It would be better if all the partitions were constructed in a similar manner but time and costs forbid it. This type, or a single board partition, must be sunk deep into the walls of the pits to prevent the mud cutting around them and thus reducing their effect. The substitute has been the wing-type partition in which the ends of a single wall are braced on both the upstream and downstream sides by solid board walls placed at 45° angles; the spaces inside the board triangles are filled with dirt. The fluid flows through a gate in the middle into which boards can be inserted, allowing the fluid level on the upstream side to be raised or lowered. Another type partition recently introduced is made from sheet steel and pipe and is sunk into the banks and bottom of the pit.[4]

Movement of the fluid in the pits should be as slow and as uniform as possible as sand will be carried by clear water having a velocity of half a mile an hour and this carrying power will be increased if the specific gravity of the fluid is increased. Mud will often have a specific gravity of 1.5 while the specific gravity of the particles being carried will range from 2.5 to 3.0. As the velocity of the mud stream increases, its power to carry particles is greatly increased. One authority[5] states that the moving power of a stream varies as the sixth power of the velocity, but this value is for ideal conditions and the carrying ability of a stream may vary as little as the square of the velocity. By restricting the passages through which the mud must pass and allowing the mud to channel, the velocity of the fluid is increased greatly and even large cuttings of the more dense rocks can thus be brought to the pump suction.

Another characteristic of the carrying power of streams should be mentioned as it also affects the amount of cuttings recirculated. The authority cited above points out that much of the burden of a stream is transported by traction, i.e., short leaps close to the bottom or rolling along the bottom. For this reason, movement near the bottom of the fluid should be as slow as possible. If a considerable quantity of cuttings is allowed to build up on the bottom of the pits, deposition of the cuttings brought from the hole will be slow and they may be recirculated. Some contractors build pits with at least one partition which forces the fluid to flow under it and while this has the advantage of keeping the mud partially stirred it also increases the amount of material which the mud will carry.

By having two or more reserve pits, adequate storage for native mud is provided and this makes an excellent base for admixtures. One of the reserve pits can be used for settling of the cuttings and the second for the storage of clean mud.



Plan of pits used by one drilling contractor whose rigs are all of the same design. Note that one of the partitions (baffle) forces the mud under it. Many operators use the first section in the settling pit as a shale pit

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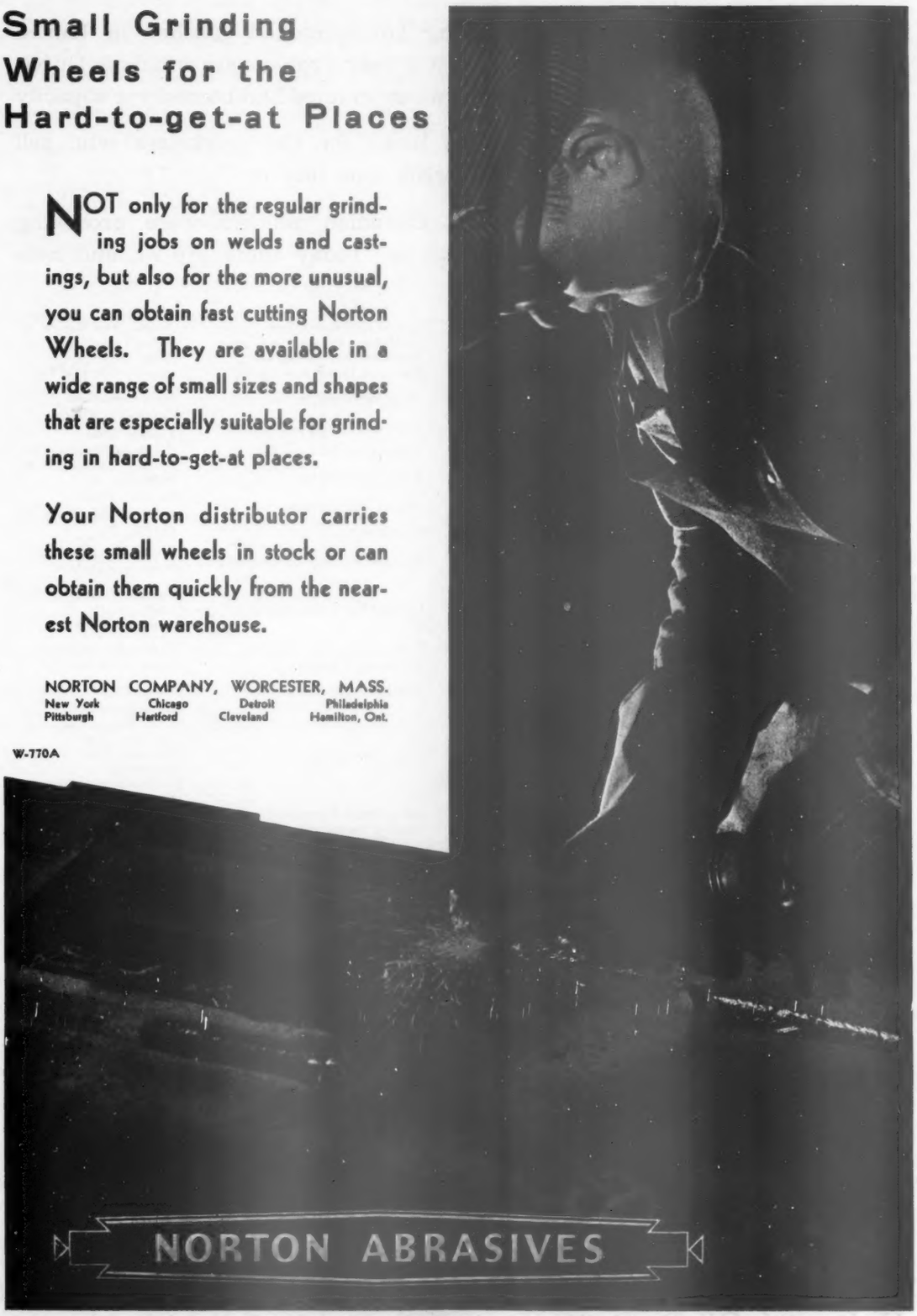

Polarographic Determination Of Lead in Gasoline

By H. A. FREDIANI and L. A. BASS
Fisher Scientific Co., Pittsburgh, Pa.
Louisiana State University

LITERATURE on the determination of lead tetraethyl in gasoline has not been very prolific. In 1924 Brich[4] suggested treating the leaded gasoline with sulfuric acid followed by subsequent purification and weighing of the lead sulfate formed. Armandy[2] at about the same time stated that addition of bromine or chlorine to the gasoline resulted in the formation of insoluble compounds "of the Type Pb $(CH_3)_3Cl$." Ferreri[12] in the following year mentioned a rather crude form of the method which is probably most widely used, in modified form, at present. It involved extraction of the lead from gasoline by refluxing with HCl followed by gravimetric or volumetric determination of the lead in the acid extract. Other methods that have been suggested are: Detection of lead by the lines in its ultraviolet emission spectrum[8], an X-ray method[1], the use of a small quartz prism spectrograph with a mercury arc[7], the use of bromine dissolved in carbon tetrachloride[6 9 11 16 20], the use of acetyl chloride[21], extraction with nitric acid[5], decomposition of the lead tetraethyl by ultraviolet light[19], followed by testing for lead by dithizone and decomposition of the lead tetraethyl by "sunlight".[17]

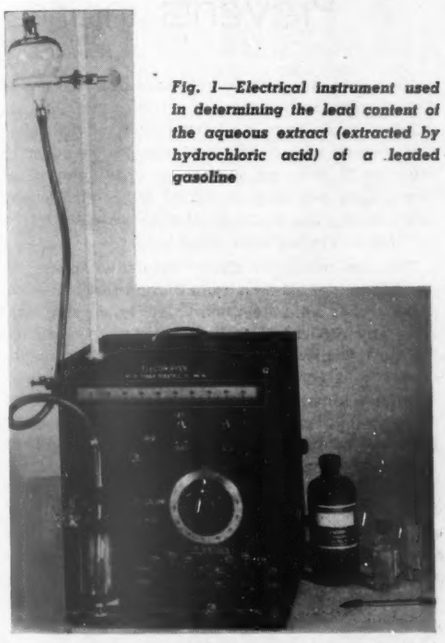

Fig. 1—Electrical instrument used in determining the lead content of the aqueous extract (extracted by hydrochloric acid) of a leaded gasoline

Probably the most widely used, and the most accurate method is that recently reported by Calingaert and Gambrill[3] and recommended by Section 7 of the A.S.T.M.[10] This involves refluxing the gasoline sample with hydrochloric acid and extracting the lead chloride formed with water. The combined extracts are then analyzed for lead by a gravimetric (conversion to $PbCrO_4$) or a volumetric ($PbMoO_4$) method.

The dropping mercury electrode is being very satisfactorily used for many analytical determinations. It involves current-voltage curves obtained in solutions utilizing a highly polarized cathode (as consistently forming drops of mercury) and a nonpolarizable anode (pool of mercury). Substances that are electro-reducible or oxidizable may be determined in this way. The fundamental principles involved have been reviewed in an excellent recent publication by Kolthoff and Lingane.[13]

The initial purpose of our investigation was to make a study of the determination of lead utilizing nonaqueous solvents with the aim of developing a technique that would permit the direct determination of lead in gasoline by polarographic methods. However, because of the complex nature of most gasolines and the applicability of dropping-mercury-electrode studies to organic as well as inorganic substances[15] not much success has been had as yet along these lines. The study so far has shown, however, that this type of instrument can be applied to the present method of analysis and result in a relatively large saving of time.

Discussion of Method

Method used.—The leaded gasoline is extracted with hydrochloric acid in an extractor similar to that recommended by Calingaert and Gambrill. The lead content of the resultant aqueous extract is determined by the polarographic method.

Apparatus.—The extraction apparatus used was similar to that of Calingaert and Gambrill. It was modified very slightly by having the Hopkins condenser connected to the flask by a ground-glass joint. This made the apparatus less bulky when not assembled for use and easier to handle. Also, the heater coil was wound between layers of asbestos cord instead of using glass bead spacers. The major part of the actual analytical work was carried out in the analytical laboratory of the Louisiana State University with an electrical setup patterned after that recommended by Kolthoff and Lingane. Because of greater manipulatory ease confirmatory analyses were made using a Fisher Elecdropode[14] (Fig. 1). The curve plotted in Fig. 2 is from data obtained on this latter instrument.

Procedure.—The standard procedure was used for extracting the gasoline, i.e., 50 ml. of the sample to be tested was placed in the flask together with 50 ml. of kerosene (straightrun, heavy distillate) and 50 ml. of concentrated hydrochloric acid (specific gravity 1.19). The heater was turned on and adjusted so that a not too rapid drip occurred from the condenser. After 30 minutes refluxing, the heater was turned off, the sample permitted to cool a few minutes, and the acid extract separated directly into a 250-ml. volumetric flask. Fifty milliliters of distilled water were then added to the reflux flask, the contents boiled for 5 minutes, separated, and the aqueous layer added to the original acid extract. The washing was repeated a second time and the solution in the volumetric flask then diluted to the mark with distilled water. A 25-ml. aliquot was placed in the special electrolysis vessel and the current-voltage values determined.

Discussion.—During the initial extractions it was noted that occasional values varied widely and that accurate check determinations by gravimetric as well as polarographic methods were difficult to obtain. This was traced to too high a condenser. Although the laboratory water supply was an exceptionally warm one (approximately 95° F.) it seems that for accurate extractions the condenser water should be as cold as conveniently possible. A study of the volatility of lead tetraethyl made by Siebenick[18] showed that during the fractionation of a leaded gasoline (distilling range of 45° to 160°) in an A.S.T.M. apparatus, lead reactions were sharp in even the 45° to 65° fractions. By using cooled water in the condenser excellent check results were obtained.

Use of the polarograph for the final lead determination decreases the time needed for the analysis for the following reasons: In either the gravimetric or volumetric determination of the lead, the acid extract and washings must be evaporated to dryness rather carefully, and the impure dry lead chloride must then be purified by addition of one or more 10-ml. portions of nitric acid followed by heating for oxidation of the organic material extracted with the lead chloride from the gasoline. These time-consuming evaporations are not necessary for the polarograph determination.

Although analyses were made on many samples, of different origin, supplied to the authors, through the courtesy of Mr. Mechlin of the Louisiana State Motor Fuel and Burning Oil Testing Laboratory, none were found in which material, deleterious to the subsequent lead determination, was extracted by the hydrochloric acid. The samples varied widely with respect to their action in the extractor and the acid solutions examined with the polarograph varied in both shade and intensity of color. The addition of a foreign ion was found to be unnecessary because of the initial high acid concentration. No samples were found which did not give comparable results when analyzed gravimetrically (after purification of the acid extract) or when analyzed polarographically

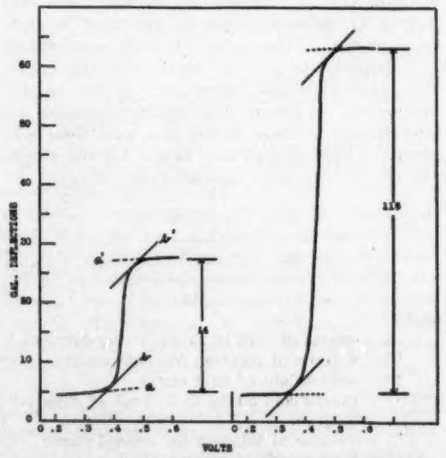

Fig. 2—Curve plotted from data obtained using the electrical instrument shown in Fig. 1

(with no purification of the acid extract). Although enough organic material usually was extracted with the lead chloride to act as peak suppressor, in a few instances three drops of methyl orange were added to serve in that capacity.

In order not to require rigid temperature control, the method involving internal standardization was used. Although two sets of readings were required by this method the total time involved for each, using the Elecdropode, was never more than 2 to 3 minutes. Using the 250-ml. final volume for the extracts the concentration of the resultant lead chloride solution was of the order of 10^{-4} molar. This is an ideal range for polarographic work.

Determination of Lead

Twenty-five milliliters of the acid extract were placed in the electrolysis cell and current-voltage data taken after flushing the solution for 2 minutes with a stream of nitrogen. Then 2.75 ml. of a standard nitrate solution (approximately 0.01 *M*) were added and the readings repeated. A typical set of these readings are shown in Table 1.

TABLE 1—TYPICAL SET OF READINGS

Applied voltage	Galvanometer deflections: 25 ml. of extract	Extract + 2.75 ml. std. $Pb(NO_3)_2$
0.100	4.1 div.	3.2
0.200	4.8	3.9
0.300	5.2	4.2
0.350	5.4	4.2
0.375	5.5	4.3
0.400	5.8	5.1
0.425	7.3	8.7
0.450	12.4	21.3
0.475	18.7	35.0
0.500	21.4	39.5
0.525	22.1	40.5
0.550	22.3	41.0
0.575	22.4	41.0
0.600	22.5	41.0
0.700	22.9	41.0

The curves were then drawn, the shorter representing the initial (unknown) lead concentration and the taller representing the concentration after addition of a known amount of lead. The step heights of these curves were measured as indicated in Fig. 2. The dotted lines *a-a'* were drawn as extensions to the flat portions of the curve. The solid lines *b-b'* were then drawn as 45° tangents to the curve. The distance between the intersections of these dotted and solid lines was measured and used as step height for the curve. The calculations were then made as follows:

$$\frac{\frac{x}{25}}{44} = \frac{\frac{x + 0.00518}{27.5}}{115}$$

where

x = grams of lead in 25 ml. of the extract
25 = volume of solution for first curve
44 = step height of first curve
0.00518 = grams lead added to 2.75 ml. of standard solution
27.5 = volume of solution for second curve
115 = step height of second curve

On solving one finds that x = 0.00276 g. lead. To convert to milliliters of lead tetraethyl per gallon of gasoline merely multiply the weight of lead obtained (from a 50-ml. gasoline sample) by 71.62. For the above example this gives:

$$0.00276 \times 10 \times 71.62 = 1.98 \text{ ml.}$$

In order to test the efficacy of the method three standard leaded gasolines were obtained from the Standard Oil Co. of Louisiana at Baton Rouge. The results obtained on these samples are summarized in Table 2.

TABLE 2—RESULTS OF TESTS ON THREE STANDARD GASOLINES

(Results in milliliters of $Pb(C_2H_5)_4$ per gallon at 15.5° C.)

Sample—	A	B	C
Standard Oil Co. analysis	2.58	2.74	1.99
Polarographic average	2.59	2.71	2.03
Number of extracts examined	7	5	9
Average deviation from mean	0.02	0.03	0.03

Conclusion

Use of the polarograph for final analysis of the acid extract of leaded gasoline permits greater rapidity with little or no loss in precision in the determination of lead tetraethyl content. A more thorough study using nonaqueous solvents may result in a method permitting the direct determination of the lead tetraethyl by polarographic methods without a previous acid extraction and thus result in the saving of appreciable time in gasoline analysis.

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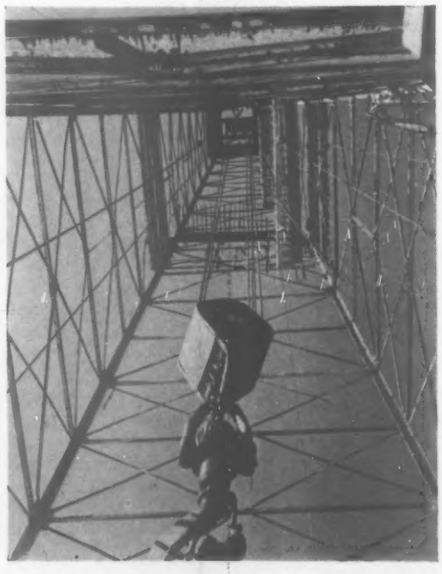
SAFETY — Steel Fourble Board Prevents Injuries

IMPROVEMENTS in derrick equipment on drilling rigs are attracting the attention of oil companies and drilling contractors as they are instrumental in reducing the number of accidents. A properly constructed fourble board not only provides a safer working position for the derrick man but also allows the driller to see the derrick man at all times. The work is also speeded up as the derrick man can rack the pipe in the hayrake and perform his other duties much quicker.



Falls from the board are probably the greatest hazard as they may result in death if the derrick man does not have his belt on or the belt breaks. Often, if the tail rope is too long, the derrick man will be knocked unconscious and his ribs broken by the sudden jar as the slack goes out of the rope.

Most falls out of the derrick are due to a man's feet slipping rather than to getting overbalanced. A board made from steel framework or drill pipe and covered with heavy steel mesh is particularly effective in reducing the danger of slipping. The board does not become coated with mud or ice and a small ridge on the front edge keeps the man's feet from slipping over the edge.

The steel mesh also allows the driller to see the derrick man at all time, something impossible with a wooden or solid steel board. If the derrick man is in any difficulty, or is delayed in performing any part of his work, the driller can see it immediately and conduct the operations accordingly. The derrick man can also see the entire floor without peering over the edge of the board and he can get ready to do anything necessary in the derrick.

The accompanying photograph shows a steel board in a derrick on a deep test in western Oklahoma. It is notched, or inset, to allow more pipe to be placed in the rack, while at the same time the main part of the board allows the work of latching and unlatching the elevators on the pipe to be performed easily. The ease of visibility is apparent.

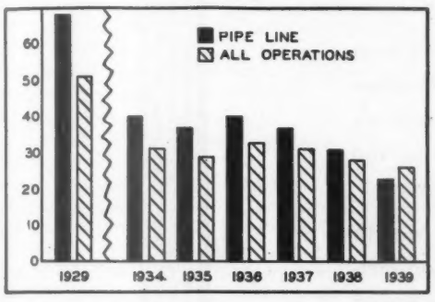
While it is not apparent from the photograph, the fingers on the hayrake are made by bending a piece of sucker rod double and welding one end to the top and one end to the bottom of the main pipe. This is the most effective method for safe and rigid construction. The tips of the rake have a small steel lug welded on the upper side to prevent the derrick man's foot slipping while he is putting a stand of pipe in place.

Tong boards, such as the one in the picture, can be easily made with a welding torch and a piece of junk 6⅝-in. pipe. By cutting slots instead of holes for bolting the board to the derrick, it can be made adjustable. Failure to bolt either the fourble board or the tong board in place, regardless of whether the boards are made from steel or wood, is very dangerous as the blocks occasionally strike them and may knock them from the derrick.

Methods of Reducing Accidents At Pipe-Line Pumping Stations

By HARRY F. SIMONS and PAUL REED

REDUCTION of the number of accidents in the pipe-line operations of the oil industry during the past 10 years has kept pace with the improvement in safety record of the industry as a whole. In 1929 the injury index for the pipe lines reporting to the Safety Division of the A.P.I. was 68.00 with a frequency of 42.50 and a severity of 2.55. In 1939 (the latest year for which figures are available) the pipe lines reported an injury index of 23.85, a frequency of 10.96 and a severity of 1.29. This compares very favorably with the entire petroleum industry between 1929

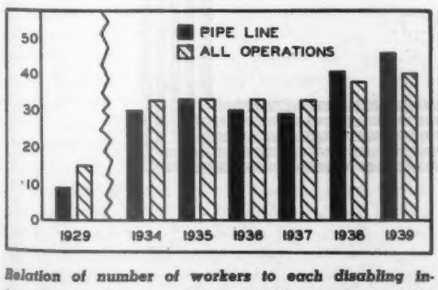


Comparison of injury index for pipe-line operations with that for all operations of the oil industry. The reduction in accidents, as it is reflected by the injury index, shows that the record for pipe-line operations improved from 68.00 to 23.85 in the last 10 years while the record for all departments of the oil industry improved from 51.68 to 26.06

and 1939 which reduced its injury index from 51.68 to 26.06, its frequency from 26.78 to 11.96, and its severity from 2.49 to 1.41.

The improvement is also reflected in the number of workers to each disabling injury. In 1929, there was one lost-time injury to each nine men employed in pipe-line operation while 10 years later this figure had been reduced to a point where only one lost-time accident occurred annually for every 46 men employed. The figure in 1939 represents a larger proportion of the men actually employed since companies employing slightly over 20,000 men were covered in the 1929 report, while nearly 27,000 employes were covered in the 1939 report.

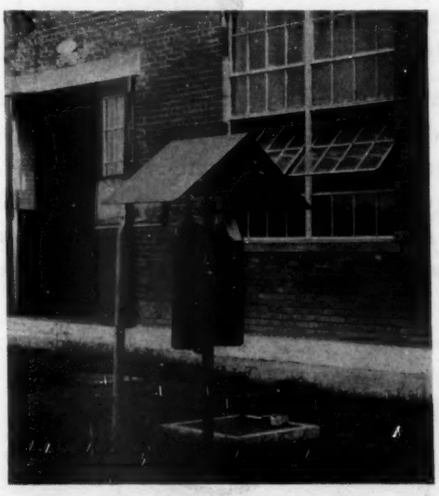
The improvement in the accident rate in the pipe-line operations of the industry during 1939 was outstanding, the injury index going down 23.4, the injury frequency going down 8.2 and the injury severity going down 32.8. The industry as a whole showed an improvement of 8.7 in the injury index, 5.4 in the injury frequency and 11.3 in injury severity; the only departments in the industry to show a greater improvement were the marine and the natural gasoline. The trend for the past years as shown by the accompanying chart has been due to determined effort to reduce the accident rate on the part of management and employes.



Relation of number of workers to each disabling injury in pipe-line operations and all operations of the oil industry

Measures which have been adopted for increasing the safety of conditions at pipe-line pumping stations are particularly interesting because of the ingenuity which has been applied in planning ahead in a farsighted way so that the chances for accidents may be reduced and so that emergencies may be dealt with effectively when they arise. A few of these pumping-station practices are described in this article. Practices for safeguarding operations in the course of constructing and maintaining pipe lines are not included.

Effort has been directed toward preventing the kinds of accidents which are possible when men are handling materials and making repairs as well as toward correcting conditions which are likely to lead to fires and explosions. Planning has been done to facilitate control of fires when they occur. By studying each accident closely and taking the necessary steps to prevent its recurrence, pipe lines are making steady progress. At present pipe-line operations are third from the top in the safety rating of all branches of the oil industry. Marketing is the safest branch of the industry. Refining is the next safest.

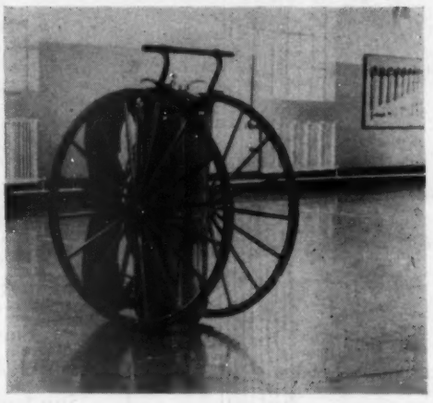


Carbon dioxide fire extinguishers are placed in the open air near a pumping station of Sinclair Prairie Pipe Line Co. where they are conveniently accessible to men leaving the building in times of emergency

Safety While Handling Material

In certain respects the movement of men around a pipe-line station is similar to that in other plants, such as refineries and natural-gasoline plants. Serious injuries are likely to come from men falling and from being struck by a heavy object. These accidents sometimes happen in a pipe-line station when a heavy piece of equipment is being carried by one or more men.

In some stations, falls at the head or foot of stairways are prevented by a simple means of painting a large red disk on the floor. A workman who is unable to see a stairway he is approaching, while carrying material, is thus warned as he approaches.



A fire extinguisher is located in the middle of the floor space in the engine room of a Stanolind Pipe Line Co. station where it is readily obtainable

At a number of pump stations each vertical engine is equipped with a separate stairway, but new stations are being built with a minimum number of stairways, a catwalk connecting all engines. Many older stations are being remodeled along the same lines. By removing stairways, it is safer and easier to move equipment around the engines.

Some of those who have studied safety problems consider that there is an advantage in having wooden ladders unpainted because paint conceals small cracks which may be dangerous. Staining or oiling is preferable to painting. It has been asserted also that in storing ladders in an upright position it is better for the bottom of the ladders to rest on the floor rather than to have the ladders hung on hooks. When a ladder is hung the rungs may become loosened and as a result a workman may fall. When a ladder is being used, it is wise to make it a rule that one man hold the lower part of the ladder while another man ascends the ladder and performs the job to be done; in case he loses his balance when trying to reach some object, the ladder will not topple over.

One of the outstanding features of any pipe-line station is its cleanliness, an important feature in reducing accidents. Light-reflecting paint improves illumination. When machinery is painted with attractive colors, the environment in which the men work is pleasanter and it is believed that fatigue is reduced.

At most pipe-line stations, tool boards are provided which make it easy to get the desired wrench or other tool. Tools are readily inspected

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when kept on a well-designed board. One company has a very strict order that any defective tool must have a red tag placed on it and that this tool must not be used again until it has been repaired by the machinist or replaced by a new one. Use of a wrench or hammer with a red tag on it is absolutely prohibited. This practice has increased efficiency and reduced the number of injuries caused by a wrench slipping, a hammer head flying off the handle, etc. Frequently the slipping of a wrench results in a more serious injury than the conditions would indicate, as the workman may fall due to his becoming overbalanced.

One company uses an unusual method for avoiding accidents which may come through failure to notice where repair work is going on. A tripod with two flags on it is placed near the work. This serves as a warning to those passing in the vicinity of these operations.

Fire Hazards

Some recently built stations have not included fire walls and some older stations have had the fire walls removed. The elimination of the fire wall provides greater accessibility within the station; it also makes it easier for men on duty to watch both engines and pumping equipment. Opinions differ as to the correct practice to be followed in regard to fire walls.

With one extreme represented by the elimination of fire wall, the other extreme is to be observed where not only fire walls are used but also extra precautions. A recently constructed pipe line for the transportation of refined products has stations with fire wall equipped with double doors which must be passed through in going from the engine room to the pump room. Engines are of the ignition type. The pumps operate at high pressures. At these stations, flame arresters and exhaust mufflers have been installed.

Illumination of the interior of the station buildings is sometimes effected by lights set near the windows outside the building and directed through the windows; the interior can be lighted adequately by this method. Stations with interior lights are frequently protected by gasproof wiring, sockets and switches. This practice has even been extended to include the telephone. Gasproof telephones prevent fire from starting due to a spark from a contact or break in a circuit.

There is a definite trend away from manifold pits. Recognition is being given to the advantages of installing manifolds aboveground or close to the ground level with a covering of either chat or gravel.

Provision is made at some stations for shutting down engines at points outside the station building. These controls are manually operated through a wire cord and are simple and effective. One of these devices is shown in the Practical Suggestions Section of the September 19, 1940, issue of The Oil and Gas Journal.

Study has been given to the proper location of fire extinguishers which are essential for immediate control when a blaze starts. Placing them in out-of-the-way corners may be convenient for the routine of station operation, but in time of an emergency the out-of-the-way corner may be hard to reach. Large extinguishers mounted on wheels are sometimes kept near doorways or even in the middle of an engine room.

At some stations, racks are provided in the yard surrounding the building. Fire extinguishers located outside the building should be protected from the weather by a roof but should not be enclosed in a cabinet. Lapse of a few precious moments while struggling to open a cabinet might result in the blaze getting beyond control. Care is also taken to locate the fire extinguishers at the proper height so that minimum time is required to pick up the extinguisher and start fighting the blaze.

Several of the safety practices discussed here are described in the Practical Suggestions Section of the Pipe-Line Issues of The Oil and Gas Journal in 1940 (September 19), 1939 and 1938.

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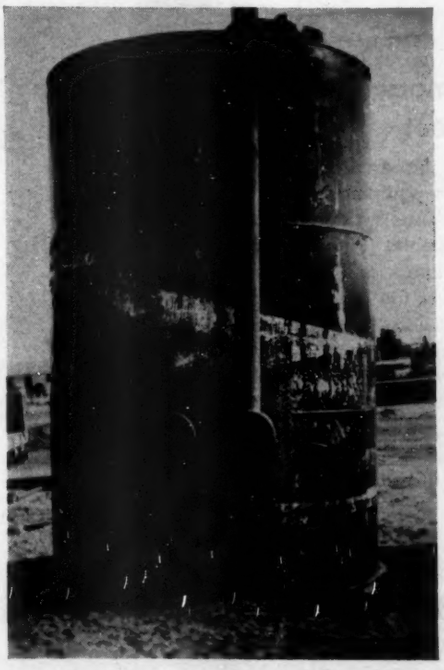
Complete Heating Unit in Treating Tank Replaced

ONE major oil company operating in the Hobbs area, southeastern New Mexico, has devised a method for installing new removable heating units in its treating tanks. The job could be done at the tank battery, but this company has work done by a welding concern in Eunice.

In making the replacements a rectangular frame, 54 by 36-in. made of 2 by 2-in. angle iron, was first welded to the tank around the old heating unit. The tank was then cut around the inside of this frame and the old unit removed, the stack having previously been removed and put aside for use on the revamped heater. All tanks are thoroughly steam-cleaned and tested before any work is started.

Either 13 or 16-in. pipe is usually used for the new units. Whereas the original units were placed

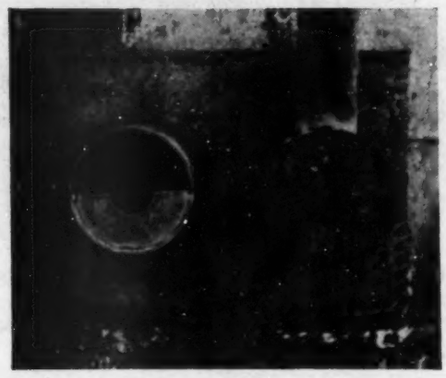


Treating tank with new heating unit partially installed

in a vertical position, with the pipes above and below one another, the new unit is installed horizontally. The unit is fully braced inside the tank and its greater weight exerts no strain on the outer bolted cover plate. If 13-in. pipe is used for the heater, a 4-in. burner is usually installed; if 16-in. pipe, a 5 or 6-in. burner is used.

The unit is completely constructed, except for the stack and end plates, before being placed in the treater. The large cover plate, having been curved to conform with the tank, is welded (both inside and out) to the heater. This cover is not bolted directly to the tank, but to the angle-iron frame which was previously installed on the tank.

All plate steel used is ¼-in., ½-in. bolts are used for installing the heater and ¼ by 2-in. rubber-gasket material is placed between the cover plate and angle-iron frame to insure against leaks. To date, none of the tanks repaired in this manner have leaked, and all are doing as good a job as ever.



Closeup of the cover plate bolted to the treating tank, and heating unit made of 13-in. pipe.

•

Deep Illinois Test Using Core Drill

Continuous coring will be used to determine the formations present below the Devonian lime in the old Carlyle pool in Clinton County, Illinois. The core hole will be carried to the Trenton formation and the specimens obtained will be given to the Illinois Geological Survey and will be preserved for references, it was announced by Harry H. Schwarz, drilling contractor of Evansville, Ind., and operator of the test well. The well is being drilled for the Hughes Petroleum Co., St. Louis, Mo., on a farmout from the Ohio Oil Co.

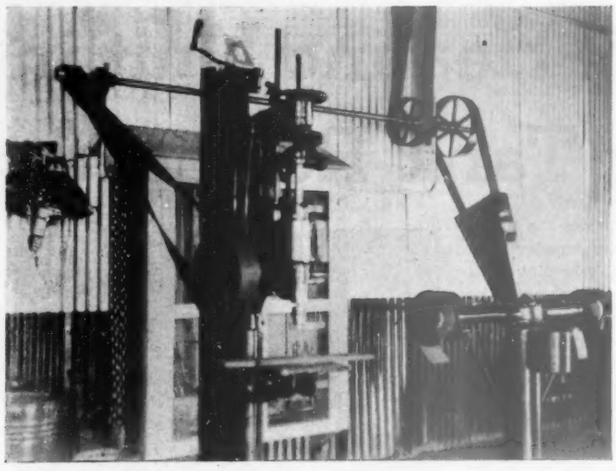
Instead of the hole being alternately cored and reamed with regular bits and core heads, the well will be continuously cored with a diamond core drill. The core heads to be used will have several hundred Bortz diamonds set into them by pressure in a machine. This type bit is intended to decrease the cost of operation by increasing the footage per bit. The operators feel that for obtaining the geological information, a small diameter (3-in.) core hole is preferable to the larger hole as most of the formations to be encountered below the Devonian are quite hard and contain chert.

The test is located in SE NE SE of Section 3-2n-3w in the 27-year-old Carlyle pool, which had 78 wells pumping at the end of 1939. Shallow production in the area is owned by the Ohio Oil Co. and is from the Carlyle formation (1,035-55 ft.) of upper Mississippian. Structure is an anticline.

At the present time the well has already been drilled to the Devonian and was reported as running 40 ft. high on that formation. The hole drilled to the Devonian (2,595 ft.) was temporarily abandoned, but a heavy-duty core-drill machine capable of drilling to more than 4,000 ft. has been moved over the hole and casing set. The coring ahead of the hole is to start immediately.

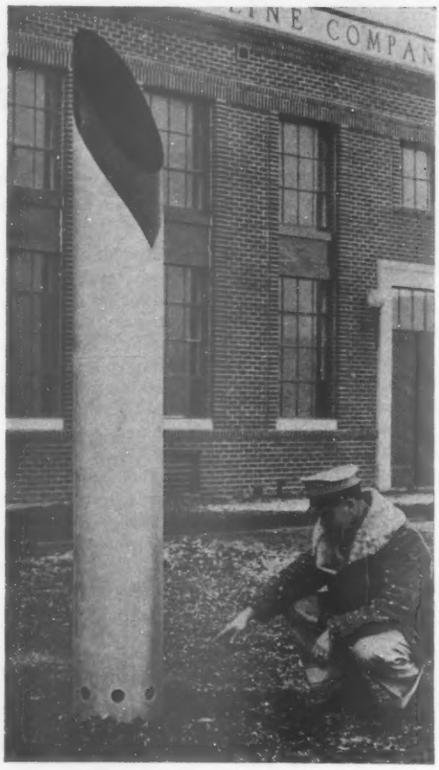
PIPE-LINE SUGGESTIONS

Machine-Shop Equipment Is Installed in Unusual Way



This power drill, grinder and buffer were rigged on upright sections of pipe for use in a pipe-line station. The grinder and buffer in the background operate from a discarded rear-end automobile assembly, with the power belt connecting to a pulley on the differential.

Protection of Paint on Exhaust Pipes



A method has been adopted for maintaining effective protection of diesel-engine exhaust pipes which eliminates exposure of a painted pipe surface that is cracked and broken. A shroud has been made which encases the exhaust pipe with an air space between the pipe and the shroud. The shroud is perforated near the ground to provide inlets for a flow of air which is drawn in by the suction effect of exhaust gases when the engine is running. The paint on the shroud is never subjected to high temperatures due to the current of air passing through the 2-in. annulus.

Compact Tool Closet

This handy tool closet keeps equipment so that it is orderly and easily accessible. Pipe wrenches, cutters and threaders hang at the left, and sockets, drills, etc., are placed on each side of the vertical swivel boards which are supported on vertical pins. These pins hold boards so that they are able to swing readily despite the weight of equipment placed upon them.

Handy Jig for Small Pipe

A contractor on the Gulf Coast made a convenient device for supporting pipe of small diameter for cutting and welding operations. The upper part of the device can be raised and lowered according to the wishes of the operator; it is held in place by a lock screw which is turned by a crank. A roller on the rack, for holding pipe, makes it easier to turn pipe during welding. When fully extended, the top of the jig is 4½ ft. from the ground.

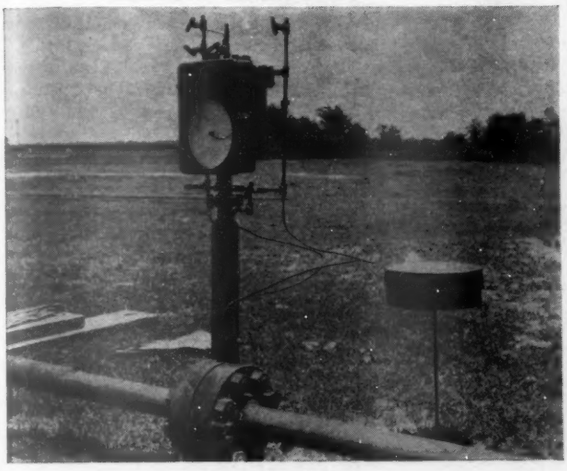
Submersible Pump as Tank Boosting Unit

A gasoline pipe-line company has a tank boosting unit with a water-and-mercury seal between the liquid which is pumped and the oil-sealed electric motor. With this type of pumping unit, no packing glands are necessary. The electric motor and pump are inclosed in a steel shell which is part of the suction line.

Operating Ideas

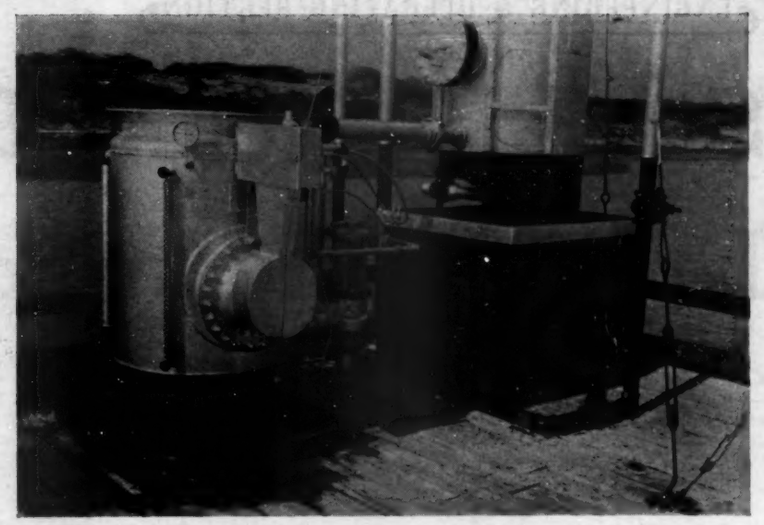
Chart Container at Recording Meter

To eliminate the necessity for the meter man having to carry a supply of new charts with him each day when the charts on meters are changed, an oil company in the Ville Platte field of Gulf Coast Louisiana has placed containers at each meter. These consist merely of short lengths of large-size pipe with a waterproof lid, formed from a larger size pipe, placed on a steel pin driven in the ground. The meters are used in conjunction with a large-scale pressure-maintenance operation, recording volume of high-pressure gas being run to injection wells.



Platform Facilitates Running Scraper

At many wells in which the paraffin deposition must occasionally be removed, use of paraffin scrapers have proven most successful for keeping the flow string clean of deposits. Generally this scraper is run on a wire line so that to facilitate its use one operator in the Fox pool of Oklahoma has built platforms of the type shown here over the well-head connections. Short lengths of sucker rods are welded to one of the legs to form a ladder for reaching the platform, around which a guard is built.



Drip Pans Prevent Pollution of Bay at Offshore Location

In drilling and producing wells in tidewater areas, and in other offshore locations where regulations require that no oil be permitted to pollute the water, operators must of necessity exercise most care to prevent such action. In the Nueces Bay area, Texas Gulf Coast, where several wells have been drilled, one operator has adopted the precaution shown in the accompanying photograph on his producing wells. This consists of metal trays under both the treater and separator to catch any fluid that might be present from leaky connections. Each tray has a drain so that the operator may readily clean it each day, thereby eliminating need for an overly large receptacle which might interfere with servicing of the equipment.

Exhaust Steam From Drilling Engines Used to Preheat Boiler Water

In the Aransas field of Southwest Texas one drilling contractor has devised a simple method for preheating boiler water and thereby cutting down on the heating load of the boilers. This consists of piping the exhaust steam from the drilling engines and mud-pump engines to the preheater shown here. The exhaust steam is run through coils placed in the preheater with the boiler water passing through the shell, thereby enabling the boiler water to pick up some heat before it reaches the boiler. A certain amount of exhaust steam is condensed in the transfer of heat and this is drawn off and returned to the boiler. The preheater is mounted on a skid so that it may easily be placed alongside the boiler at each new location and quickly connected into the steam-generating and return system.

Sixth Recycling Plant in Agua Dulce Area Placed in Operation

By NEIL WILLIAMS

SIXTH plant for the recovery of condensate and maintenance of reservoir pressures in the Agua Dulce-Stratton district of Nueces County, Texas Gulf Coast, recently was completed by Gulf Plains Corp. Located in what is known locally as the Sullivan area between the Agua Dulce and Stratton fields, it provides an important link in effecting complete coverage of these fields by gas recycling operations.

Embraced in the scope of the Gulf Plains project is a block of approximately 6,000 acres. This block is just south of the properties in the south end of the Agua Dulce field proper on which Coastal Recycling Corp.'s largest recycling plant, completed last December, is located. It is just north of the Stratton field properties pressured by a plant operated by Corpus Christi Corp.

The well spacing of the Gulf Plains block has been closely coordinated with that of the Coastal Recycling Corp. and the Corpus Christi Corp. to the end that a unified and systematic plan for the development and production of the entire area is being carried out.

In this connection it is noted that Robert T. Wilson, Clyde H. Alexander and John J. Sheerin, who have headed the group forming the Gulf Plains Corp., also are associated with the Coastal Recycling Corp., while the latter two men also are in the Corpus Christi Corp. Through these connections the operations of the three companies have been more or less directly related.

Of special significance in the Gulf Plains operations is the fact that six separate sands, taking in two areas, are involved with the stripped residue gas of the plant being returned to five of these sands. In this, one of the special features of the operations is the employment of two-zone producing and injection wells.

High-pressure absorption and compressor capacity to handle up to 100,000,000 cu. ft. of gas daily has been provided for the Gulf Plains plant. The installation is designed to operate at intake pressures up to 1,500 lb. per sq. in. gage and compressor discharge pressures up to 3,250 lb.

Due to different pressure conditions existing in the north and south sections of the block, two separate intake and discharge systems are provided in the operation, one complete system being for wells in the north area and the other for wells in the south area. Present intake pressure of the north-area system is 1,250 lb. and discharge pressure 2,500 lb., while the intake pressure of the south system is 1,350 lb. and discharge pressure 3,250 lb. Thus operating pressures of the absorbers and compressors are varied according to the gas being handled.

Drilling Program

Although the drilling program has not been completed, the project calls for 10 producing wells to be connected to the north system and 15 to the south system. This will make a total of 25 wells, but considering the double completions planned, there will be the equivalent of around 40 wells so far as producing effect is concerned.

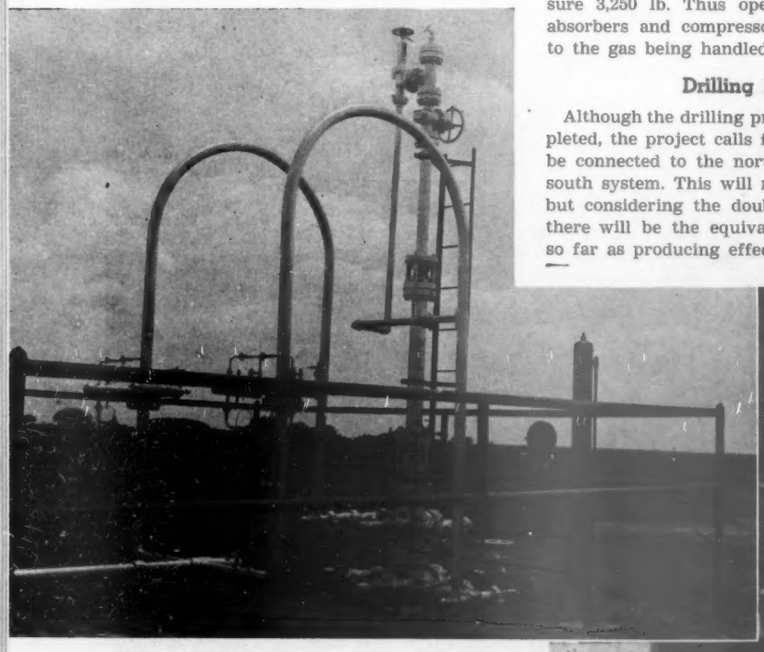
Production of wells supplying the north system is being obtained from sands at 4,800, 5,000, 5,500, 6,200 and 6,600 ft. That of the south wells is from only the 4,800-ft. and 6,200-ft. sands and from a 6,400-ft. sand. So far there are only two "double completion" or two-zone producing wells: one on the north system, producing from the 4,800 and 5,000-ft. sands, and the other on the south system producing from the 6,200 and 6,400-ft. sands.

Five Injection Wells Used

Three injection wells have been completed for the south-area system, and two for the north side. The former are all single input wells, one each for the 4,800, 6,200, and 6,400-ft. sands existing there. On the north system, one of the key wells is a double completion, injecting gas both to the 4,800 and 5,000-ft. sands. The other is returning gas only to the 6,600-ft. sand. The 5,500-ft. sand of the north area is the only horizon to which gas is not being returned.

In the completion of two-sand producing wells, a packer is set immediately above the lower sand casing perforations, sealing off the annular space behind the tubing from that horizon. The wells are equipped with an intermitter set just above the packer, permitting the wells to be produced 6 hours through the casing from the upper sand, and then 6 hours through the tubing from the lower sand. Mechanically the completion of the double-zone injection well is similar to that of the two-zone producing wells. In injection, the gas is returned to the upper sand through the annular space, and to the lower sand through the tubing. Gas is injected in the 6,600-ft. sand input well both through the tubing and the annular space, although a greater volume is returned through the annular space.

The compressor plant returning the residue gas



Above: Six separate producing sands are involved in the Gulf Plains project, with the high-pressure residue gas being returned to five of these. Due to different pressure conditions existing in the various sands two injection pressures are used, one at 2,500 lb. and the other at 3,250 lb. This view shows one of the two-zone injection wells. Right: Compression equipment for raising the pressure of the residue gas to these discharge pressures consist of five 800-hp. eight-cylinder angle-type compressors.

to the various sands consists of five 800-hp. two-cycle, eight-cylinder, right-angle, gas-engine-driven compressors. One of these units has a 11½ by 14-in. recompressor cylinder and three 4⅝ by 14-in. cylinders. Two others have 3⅝ by 14-in. cylinders, while the other two have 4⅜ by 14-in. cylinders. The cylinders, which are of forged-steel construction, are designed to operate at pressures up to 4,000 lb. They are equipped with cast-iron removable liners, and the cylinder barrel is encircled by a cast-iron water jacket.

Suction of the compressors is taken directly from the high-pressure overhead stripped gas. A scrubber mounted in the upper section of each of the three absorbers is designed to reduce the mist carry-over to a minimum. Each absorber has 20 bubble-cap plates. Wet intake gas, temperature of which is higher than desired for efficient processing, is charged to the absorbers through cooling sections in the base of the cooling tower. All wet gas is metered at the plant.

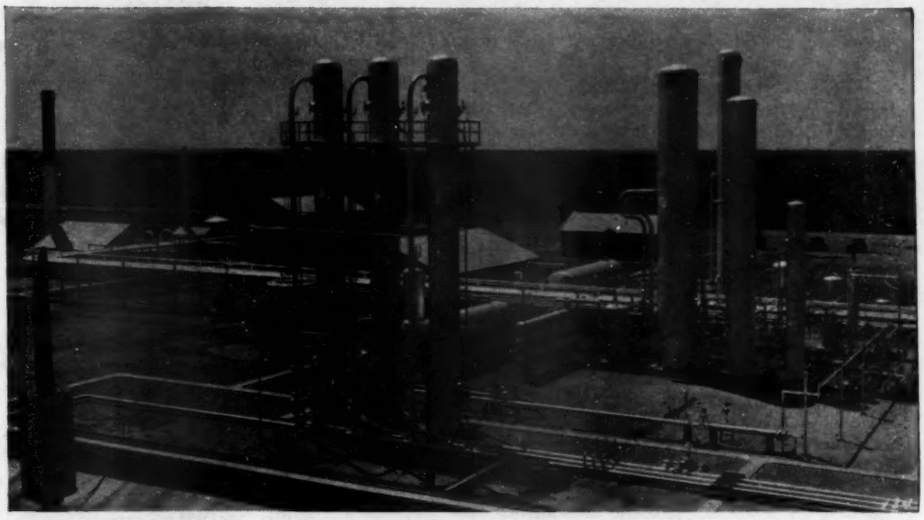
The processing installation and operation of the Gulf Plains plant is practically the same as that of the Coastal Recycling Corp., the essential difference in the plants, as a whole, being in the provision for double-pressure operation, and in the fact that the Coastal plant, the largest plant of its type ever built, has greater absorber and compressor capacity. Both plants were designed and built by Stearns-Roger Manufacturing Co., of Denver, Colo., in conjunction with Parkhill-Wade of Los Angeles, Calif.

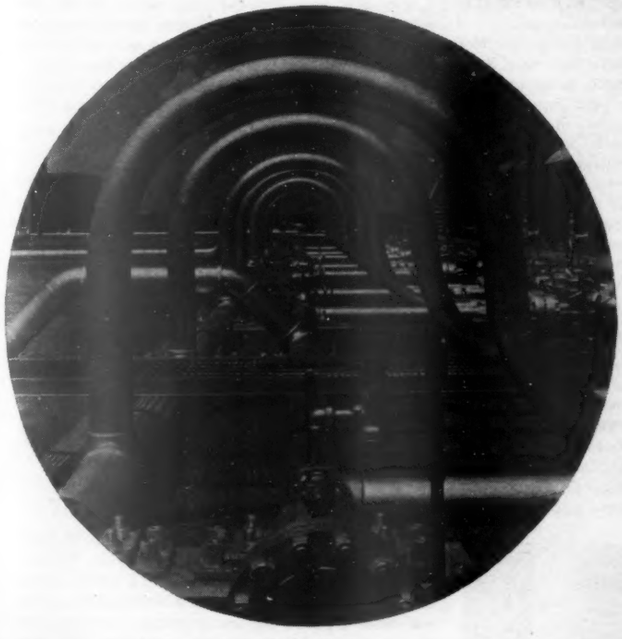
The Gulf Plains plant was built on a complete turn-key basis, all labor and materials being furnished by the two construction companies. They likewise designed and constructed the field pipe system.

In the secondary-recovery phase of the plant operation, pressure of the rich oil passed from the base of the absorbers is reduced to 150 lb. in three stages of pressure reduction, provided to hold the loss of the light hydrocarbons to a minimum. In the first stage, consisting of a high-pressure vent tank, the pressure is dropped to 600 lb. The intermediate vent tank is held under pressure of 300 lb., and then the low-pressure vent tank at 150 lb.

The light gases vented from these tanks are used as needed for plant fuel. From the low-pressure vent tank the rich oil, heated in an exchange with hot lean-oil discharge from the kerosene still, is charged to a rich-oil flash separator, in which a substantial volume of the lighter ends is flashed to be passed directly to a high-pressure gasoline still.

Direct-fired heaters are employed for heating the rich oil charged to the high-pressure still. By preheating the stream from the low-pressure vent tank, and flashing the lighter ends in the flash separator, an important saving is effected in the volume of material which has to be handled by the heater.





Above: General view of the Gulf Plains Corp.'s recently completed recycling plant in the Sullivan area of Nueces County, Texas Gulf Coast. All lines are laid aboveground or suspended overhead from supports and through the compact arrangement of processing facilities an unusually neat appearance is presented

Left: Intake and discharge manifolds alongside the compressor plant. The gas engine-driven units take suction from the manifold beneath the piping bends at 1,250 and 1,350 lb. and discharge through the expansion bends at 2,500 and 3,250 lb. Two separate intake and discharge manifolds are used and pressures in the absorption system likewise vary

Stripping Facilities

Temperature of the rich-oil stream through the direct-fired heater is raised by 580° F., at which temperature the still is operated. In this still, on which a pressure of 35 lb. is maintained, the rich oil along with the gases passed from the flash separator are fractionated. The gasoline fractions pass overhead, leaving a mixture of absorption oil and absorbed distillate ends to be flashed to a kerosene still.

Passing overhead from the high-pressure still is a 395-end point, 66-67-gravity, 9.5 vapor-pressure motor-fuel product. The end point is controlled by the quantity of gasoline reflux to the top of the still. The initial of the remaining distillate also is governed by steam agitation.

The kerosene still is operated at atmospheric pressure. Here the absorption oil is stripped of the remaining absorbed fractions which pass overhead through condensers to storage. Lean oil, after exchange of heat with the cold rich-oil stream, is picked up by the hot-oil pump for circulation through cooling coils in the base of the cooling tower to suction of the high-pressure oil pumps.

The hot-oil pumps are 3,510 r.p.m. centrifugals, directly driven by 25-hp. motors. Two such pumps are provided, one serving as a standby. Each has a capacity of 300 g.p.m. Two 2¾ by 10-in. and one 2¾ by 12-in. high-pressure lean-oil pumps are also provided. The smaller pumps, each having a capacity of 65 g.p.m., are driven by 75-hp. motors, while the other pump, having a capacity of 85 g.p.m., is driven by a 100-hp. motor.

Stabilizing Equipment

Gasoline vapors, after passing through condensing coils to an accumulator, are picked up as a liquid stream by a 12 by 7 by 18-in. steam feed pump and charged to the stabilizing unit. The stabilized product, after cooling in an exchanger and an aftercooler is run to storage. The stabilizer feed accumulator also serves as a dewatering tank and a separator for uncondensable vapors. The latter vapors pass overhead to a vapor recompressor stop tank, from where they are picked up by a vapor recompressor and charged to the stabilizer with the liquid feed stream.

The plant also contains an absorption-oil reclamation system which keeps the lean oil cleaned and adjusted for end point and molecular weight. A sidestream of hot lean oil is diverted from the discharge of the hot lean-oil pump and charged to an oil-purification still. From the base of this still the oil is circulated by a 3,460-r.p.m. centrifugal pump, driven by a 3-hp. motor, through a small direct-fired oil heater, and then back to the still. The desired fractions are separated from the oil and taken overhead through condensers to an accumulator. From here they are picked up by a 3½ by 3½ by 4-in. steam-driven pump and returned to the system at a point just ahead of the lean-oil coolers. The heavy ends and impurities in the bottom of the reclaiming still are pumped to a burning pit.

Electric power is used extensively throughout the plant due to the need for conserving steam requirements as a result of poor quality water supply for boilers. The power plant includes three 312-kva., 60-cycle, 480-volt, 375-amp., three-phase generators having 80 per cent power factor. They are driven by 375-hp., two-cycle, three-cylinder engines having 14 by 14-in. power cylinders. En-

gines are equipped with a governor to regulate speed, and control of scavenging air results in a proper air mixture.

In the steam plant are three 125-hp. oilfield-type boilers operated at 250 lb. pressure. Each has four intermediate-pressure burners, a water gage column, high and low-level alarm, and automatic feed-water regulators. They are fed by two 7½ by 4½ by 10-in. steam-driven pumps.

The cooling tower for the plant is of the induced-draft type, having a capacity of 7,200 g.p.m. The collecting basin is divided into sections, each having a cast-iron redistribution spray system. A flapper valve above the cooling coils makes it possible to shut off any of the sections when desired. In the top are six 138-in. fans, driving by 25-hp. splashproof motors. Two vertical propeller pumps are used for circulating water over the top of the tower. Each is driven by a 50-hp., weatherproof motor and has a capacity of 1,800 g.p.m. They are mounted at the side and take suction from the sump in the tower basin.

Except for a 500-bbl. kerosene accumulator all storage for the plant is located at a tank farm about 4 miles from the plant. Gasoline is moved to that storage by stabilizer pressure through a 3-in. line. Kerosene is moved to the tank farm by a 3 by 4-in. triplex pump driven by a 5-hp. motor.

This tank farm is a central shipping point for the products of the Gulf Plains Corp., Coastal Recycling Corp., and the Corpus Christi Corp. These companies jointly own the Stratton Pipe Line Corp., which recently was incorporated to take over and operate a 50-mile gasoline line from the plants and tank farm to Corpus Christi. At the tank farm and at the Corpus Christi terminal the latter company has a total of 450,000 bbl. of storage facilities.

Pumping equipment at the Gulf Plains plant, in addition to that already specified, consists of a 12 by 8½ by 18-in. steam unit for stabilizer reflux; a 12 by 8½ by 18-in. steam standby unit for stabilizer reflux or feed; a 6 by 4 by 6-in. steam pump for distillation-unit utility purposes; two 3,450-r.p.m. centrifugals, driven by 7.5-hp. motors for gasoline reflux; two 3,500-r.p.m. centrifugals, driven by 2-hp. motors, for kerosene reflux; two 6 by 4 by 6-in. yard utility pumps; two 1,770-r.p.m. centrifugals, driven by 75-hp. motors, for engine jacket-water circulation.

Electric power is extensively used throughout the plant to reduce steam requirements. Electric-generating facilities consist of these three engine-generator units, 312-kva. 480-volt three-phase generators direct-driven by 375-hp. three-cylinder gas engines

BOOKS

TRANSACTIONS OF A.I.M.E. PETROLEUM DEVELOPMENT AND TECHNOLOGY (1940), published by Petroleum Division of American Institute of Mining and Metallurgical Engineers, 29 West Thirty-ninth Street, New York. Price $5.

The 1940 edition of the Petroleum Development and Technology series (Vol. 136) offers 17 complete papers presented before the division's meetings at Galveston, Tex.; Los Angeles, Calif.; and New York City. In addition to these papers covering technological advances in the production engineering and petroleum economic phases of the industry, the volume presents detailed data on most of the oil fields of the United States so that it is highly valuable as a reference book.

The book, consisting of 597 pages, is divided into five chapters, devoted respectively to (1) Production Engineering, (2) Engineering Research, (3) Petroleum Economics, (4) Production, Domestic and Foreign, and (5) Refining. The first chapter consists of five papers dealing with gravel packing of wells, multistage stabilization of crude, principles of well spacing, radial filtration of drilling mud and detection of radioactive cement in cased wells. The chapter dealing with engineering research consists of nine pages, including discussions on flow of air-water mixtures in a vertical pipe, flow of gas-liquid mixtures through consolidated sands, phase behavior of hydrocarbons and three papers dealing with drilling muds.

Chapter 3 is made up of four papers covering the economics of overdevelopment, factors affecting refiner's choice of crudes and domestic demand and world consumption of petroleum products.

In Chapter 4 the production of most of the oil fields of the United States during 1939 is given by states, and a discussion of developments in the various states and districts is presented. Where such data is available, the discovery dates of fields, the oil and gas-producing area, their 1939 and cumulative production, number of producing wells, information on the producing horizon and other data is given. In the North Texas district, which in the past was presented largely by counties, data on individual fields is given. A discussion and much data on foreign developments is also included in this chapter.

In Chapter 5 a review of developments in refinery engineering during 1939 is presented.

"Petroleum Development and Technology (1940)" may be purchased through the Book Department of The Oil and Gas Journal at the established retail price of $5, postage prepaid (extra outside the United States), and a copy will be forwarded promptly upon receipt of check or money order for that sum. Where payment or company purchase order is not provided, the book will be sent c.o.d. to avoid delay.

SCIENTIFIC PRICE MANAGEMENT I, by Allen W. Rucker, published by the Eddy-Rucker-Nichels Co., Harvard Square, Cambridge, Mass. Price $5.

For those who have pricing decisions to make—executives, sales managers, production managers and auditors—this handbook is wholly unique. Fifteen different types of price problems, taken from actual case studies by the author's firm of management counsel, give the user of this manual virtually a complete guide to pricing problems. As the author points out, few know how to compute the added volume needed to compensate for price discounts or added direct costs. In this manual is provided the means to determine volume increases under every possible condition without any computation whatever. This accomplished by six "calculator charts" incorporated in the manual.

SIMPLE BLUEPRINT READING WITH SPECIAL REFERENCE TO WELDING, published by the Lincoln Electric Co., Cleveland, Ohio. 138 pp. Price 50 cents.

This book affords a basis for study of blueprint reading which, together with practice in the actual reading of drawings, will guide the student to proficiency in this important subject. While the book has been compiled and published primarily for welders, it contains information of value for anyone concerned with mechanical construction. With the help of the book, the student can learn with a few hours' spare-time study what it would take many months to pick up in the ordinary course of every-day work. It will enable welders, mechanics and others to answer questions for themselves, thus saving the time of the welding supervisor or foreman.

Simple Blueprint Reading takes up the following important subjects:

Simple welded object presented as a study; perspective drawing, isometric drawing; limitations of these and other types of picture drawings; showcase views of the subject; (orthographic projection); the three views necessary to give a complete showcase description; "line of sight" projection of views; bringing the three views to the same plane as on a sheet of paper: further analysis of point and line projection; line "alphabet"; hidden and visible outline; center lines, dimension lines, extension lines, break lines, cutting-plane lines; many examples of simple and more complex blueprints with picture drawings to explain them.

It also gives a discussion of important points; dimensions, how presented, how interpreted; scale, usefulness of transformation in size by a known ratio; explanatory views (auxiliary); examples of necessary explanatory views and picture drawings to help in studying them; sections, cutting a piece for clear presentation to the reader; broken views, omitted parts of drawings; screw thread interpretation; study of appearance, discussion and example; development of the basic weld symbol, the arrow, method of indicating weld position; method of indicating type of weld, size and shape of weld, length of weld, and other necessary information; analysis of complete weld symbol and its use; sections over 35 different welds with their corresponding symbols; examples of the previous instruction drawings with welding symbols added; special symbol instruction drawings.

A comprehensive explanation gives the student a clear understanding of various symbols used in drawing of different types of welded joints, including butt, corner, fillet, lap, etc. While not intended as an exhaustive treatise on blueprint reading, this book affords a sound basis in the fundamentals.

Automatic Rod-Line Knock-Off Cuts Operating Cost Of Stripper Leases

By T. P. SANDERS

SOME time ago an independent oil producer sat in a lease engine house watching the time-worn operation of his central-power machinery while he weighed a problem common to the producers of stripper wells. Through rigid economy 72 nearby wells had been kept operating for many years, but now a sudden revision in crude-oil prices for the district had changed a modest profit into a sizable loss. Only two courses of action lay open: Either the operating costs on the leases must be reduced appreciably, or the wells must be sold to dealers who would salvage the equipment as junk and plug the wells. All possibilities for increasing production had been exhausted, and since all the wells were being pumped by rod lines from central powers, little or no improvement could be made in operating expenses by plugging the poorer wells.

In analyzing this comfortless situation the producer concluded that the most time-consuming routine task for the pumper on a stripper lease consisted in shutting down wells after they had pumped off. While the operation itself is simple, the necessity of being on hand at the time each well completes its daily pumping period usually makes it impossible for the pumper to engage effectively in constructive work about the lease. In many cases these frequent interruptions prevent him from giving the equipment its proper maintenance care.

The task of shutting down wells, including time spent in going to and from the hookoff locations and in waiting for the proper time to disconnect each well often requires one-half of the pumper's total working time. Since 50 per cent of the revenue from a stripper lease must sometimes go to pay pumpers' wages, it is not uncommon for the job of shutting down wells to cost 20 to 25 cents per barrel of oil produced.

Realizing that the best solution to this problem lay in eliminating the high cost of shutting down wells, the producer set out to devise an automatic arrangement which would disconnect a well from the power at the desired time each day. It seemed most practical to attempt to duplicate the essential motions performed by the pumper in hooking off a well.

Determining When to Shut Down Wells

Much of the pumper's time is spent in determining when the well has pumped down to a point where it is desirable to shut down. Opinion varies as to when this point is reached, with some contending that the well should be shut down as soon as it begins to pound fluid, while others believe that it is best to continue pumping long after the fluid pound has developed so that the maximum production will be obtained. Leaving this controversy for the moment, fluid pound is caused by incomplete filling of the barrel which causes the plunger and rods to fall rapidly on the downstroke until the plunger strikes the fluid.

In deciding when to disconnect the rod-line well from the central power the pumper may press the rod line down with his foot. Then, if the barrel is filling completely with fluid, this fluid in the barrel will resist the drop of the plunger throughout the entire downstroke, and as a result there will be very little tension on the rod line during the downstroke. This being the case, the weight applied by the pumper's foot will cause the line to sag noticeably at this point. If, on the other hand, the barrel is not filling completely, the absence of fluid in the top of the barrel will cause the rod line to remain taut until fluid is struck. When the plunger strikes fluid, the rod line will sag under the weight applied by the pumper's foot. As the fluid pumps down this sag will occur nearer to the end of the downstroke until a time is reached when practically no fluid enters the barrel, and at this time the line will remain taut throughout nearly all of the downstroke.

This surface effect of the pumpoff is utilized in the automatic shutdown device. The pumper's foot is replaced by a cast-iron weight which induces the sagging in the rod line. When absence of fluid in the barrel causes the line to become taut on the downstroke, this tension raises the weight to a position where it will strike a hinged finger which protrudes downward from a sliding rod placed above the rod line. Through this contact the upper rod is forced back, causing the release of a heavy drop bar which falls into position on the notched hookoff bar. When the hookoff bar is stopped in this way on the downstroke, the rod line releases itself by means of a link at the power end of the bar. It is, of course, necessary for the pumper to connect the well when the time comes for its next pumping period.

Fig. 1 shows the automatic hookoff assembly after it has disconnected the well from the power. Fig. 2 shows the location of the hole in the drop bar by means of which the drop bar is held up by the sliding horizontal rod during the normal pumping period. When the sliding rod is forced backwards by the cast-iron weight, it is withdrawn from this hole and the drop bar is released.

By regulating the position of the cast-iron weight and the hinged finger which it engages, the hookoff can be made to operate as soon as the fluid pound develops in the well or at any subsequent time up until the well is completely pumped

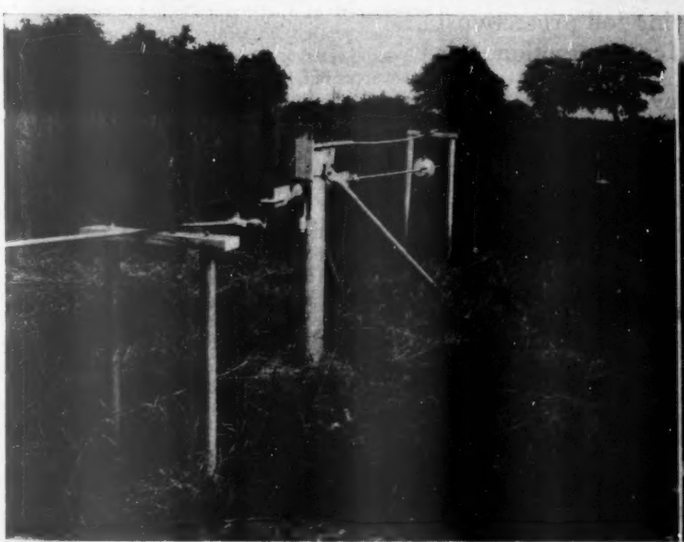


Fig. 1—Automatic hookoff assembly which duplicates the essential motions of the pumper in disconnecting a well from the power as soon as fluid pound begins

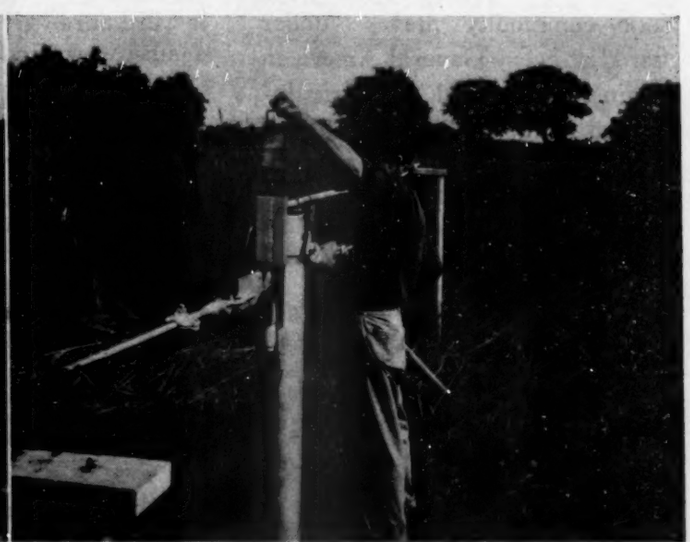


Fig. 2—The drop bar has a hole in it by means of which it is supported by the sliding rod. Movement of rod releases the bar so that it will fall in place on the notched bar

off. As stated, there is some controversy as to when the well should be shut down. However, on all but the shallowest of wells it is probably good economy to shut the well down as soon as a fluid pound begins. Continuing pumping until the pound occurs at the bottom of the barrel will usually obtain more production, but the value of the additional oil is usually insufficient to compensate for the wear and destruction of pumping equipment induced by the fluid pound.

When water is present in a well, pounding of fluid causes cutting of oil (formation of water-oil emulsion). For this reason it is usual practice on such wells to avoid fluid pound in so far as possible. Nevertheless, the pumper watching a number of wells nearly always finds it impossible to be on hand at the proper time to hook off each well as it begins to pound fluid. In providing a means for shutting down each well as fluid pound develops, the automatic hookoff makes it possible to reduce cutting of oil. Grindout tests on the crude produced at one lease showed that automatic hookoff devices has decreased the b.s. content from 0.8 to 0.2 per cent. Since less treating was required, the oil did not have to be held so long in the lease stock tanks, and it was noted that there was less tendency to lose gravity.

The most conspicuous improvement in lease operation rendered by the automatic hookoff has been the reduction in amount of well servicing required. By avoiding fluid pound on one lease where four part-time wells were operating, the well servicing was reduced from approximately one pulling job per month to one pulling job every 3 months, and the well-servicing requirement is apparently still decreasing.

Having patented the automatic hookoff device, the independent operator installed it on all of his part-time producers. Through its use he found it possible to continue production of 60 of the 72 wells at a profit. Without doubt they will be produced for several years to come, although a few months ago abandonment was imminent. By extending the economic lives of stripper leases, the automatic rod-line hookoff has proved itself capable of increasing recovery from shallow oil pools.

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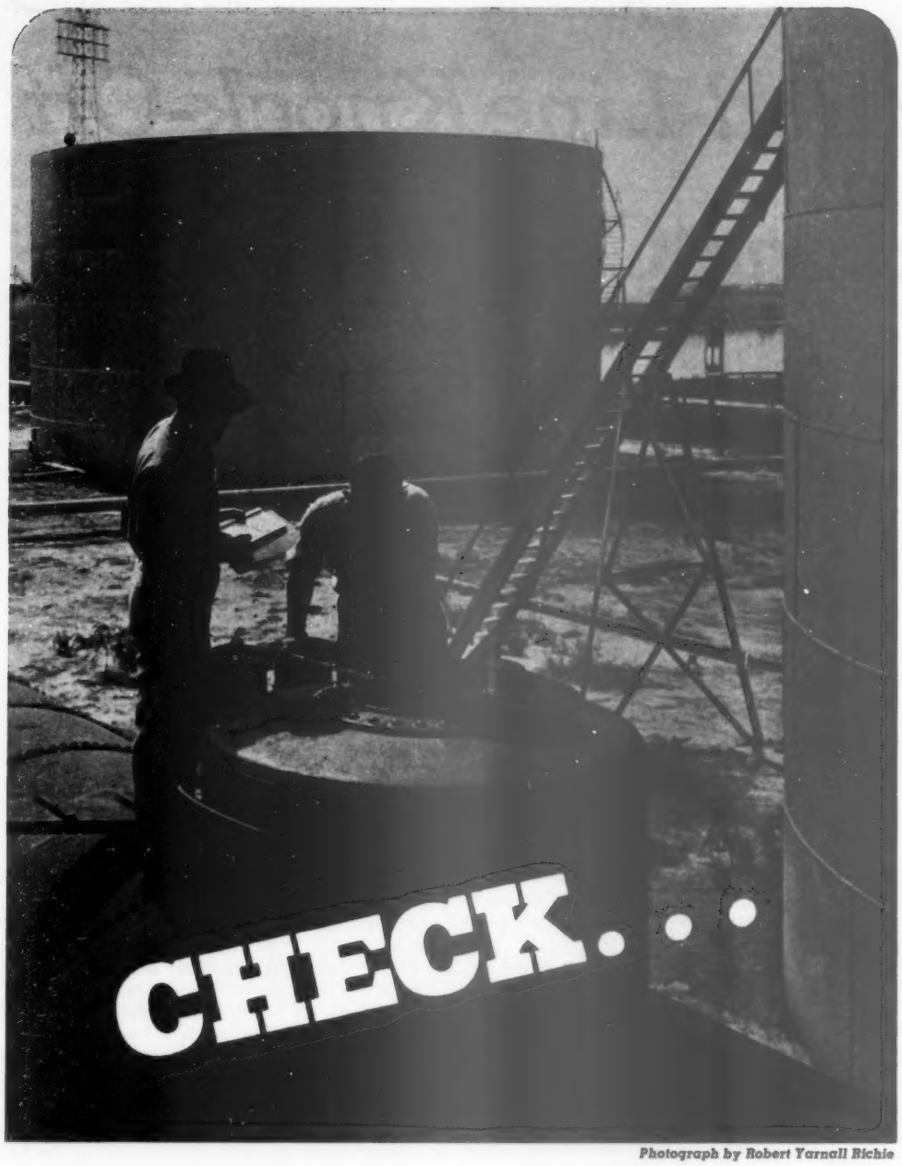
Information on Safety Readily Available

Safety directors of small and large companies can obtain important information on safety appliances and safety procedure by availing himself of National Safety Council library. The library is maintained at the council's headquarters at 20 N. Wacker Drive, Chicago. The library contains a complete index of informational articles which have appeared in National Safety News and the Transactions of Safety Congresses. This enables the librarians to locate information on almost any safety subject.

In addition to material in the Council's own publications, the library has in vertical files more than 100,000 items, including safety codes, government bulletins, technical society reports, clippings from scientific and trade journals and typewritten reports from members.

In order to promote safety the council also issues safety instruction cards containing brief instructions on how to do one job safely. The suggestions are all within the power of the worker, himself, to carry out. For example, 10 cards that every worker in the oil industry would find helpful to have in his pocket are:

How to Lift, No. 55; Setting Up a Ladder, No. 16; Falls in Industry, No. 161; Machine Operators, No. 306; Goggles—When to Wear, No. 463; First Aid for Every Minor Injury, No. 233; Safety Shoes, No. 234; Cleaning Up After the Job, No. 446; Tips for the New Employe, No. 302; Ten Commandments of Safety, No. 366.



Photograph by Robert Yarnall Richie

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Progress in METALS

By W. L. NELSON

Fatigue Strength of Welds

Abstract: Taken from Metals & Alloys, Page 211, August 1940.

One of the deterrents to the use of welding as a means of fabricating bridges has been the lack of knowledge of the fatigue strength of welded joints. Early European tests showed fatigue strengths of structural members joined by welding to be as low as 10,000-15,000 lbs. per sq. in. American engineers have waited for fatigue tests of welded joints on the largest possible scale before they could easily sanction fabrication by welding.

These have evidently been provided by W. M. Wilson and A. B. Wilder of the University of Illinois ("Fatigue Tests of Welded Joints in Structural Plates," Welding Journal, New York, Vol. 19, March 1940, pp. 1,005-85), using 50,000-lb. capacity machines specially designed for these tests. Loading was axial, with any tension-compression ratio desired available. Machine speeds were 180 r.p.m. The two steel plates tested contained 0.28 and 0.23 per cent C and had ultimate strengths of 63,400 lb. per sq. in. and 59,300 lb. per sq. in., respectively.

All welded specimens had butt welds, and tests were made with the joints as-welded or flush-planed-reinforcement and stress-relieved or not stress-relieved. A few tests were also made on a manganese-vanadium low-alloy structural steel.

For the carbon-steel specimens in the as-welded condition, the values of the fatigue strength for a cycle in which the stress varied from tension to an equal compression were 21,600 lb. per sq. in. for failure at 100,000 cycles, and 14,800 lb. per sq. in. for failure at 2,000,000 cycles; and for a cycle in which the stress varied from zero to tension, the values of the fatigue strength were 32,600 lb. per sq. in. for failure at 100,000 cycles and 23,100 lb. per sq. in. for failure at 2,000,000 cycles.

For specimens in the as-welded condition, except that the reinforcing had been machined off flush with the base plate on both sides, the values of the fatigue strength for a cycle in which the stress varied from tension to an equal compression were 29,400 lb. per sq. in. for failure at 100,000 cycles, and 19,800 lb. per sq. in. for failure at 2,000,000 cycles; and for a cycle in which the stress varied from zero to tension, the values of the fatigue strength were 47,000 lb. per sq. in. for failure at 100,000 cycles and 30,100 lb. per sq. in. for failure at 2,000,000 cycles.

Thus, removing the stress raiser due to the change in section at the edge of the reinforcing, increased the fatigue strength 43 per cent. Moreover, the fatigue strength of the welded specimens with the reinforcement planed off was equal to the fatigue strength of plates without welds. Stress-relieving the specimens by heating them to 1,200° F. for 1 hour and then cooling them in the furnace had no effect upon their fatigue strength.

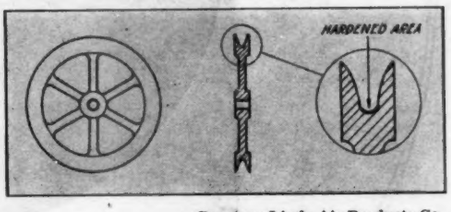
For all kinds of specimens, stress-relieved or not stress-relieved, reinforcing off or reinforcing on, the fatigue strength corresponding to failure at 2,000,000 cycles, in which the stress varied from tension to tension one-half as great, exceeded the yield point of the material, and is therefore not important to the structural designer. The relatively small variations in hardness and the favorable grain structure indicate that there were no major metallurgical stress raisers present in the welds to affect the fatigue strength.

Favorable values for fatigue strengths of weld metal laid down by the Unionmelt process are reported by L. B. Durant and J. F. Ennis of Webb Institute of Naval Architecture ("Investigation of the Fatigue Strength of Weld Metal and Welded Butt Joints in the As-Welded and Stress-Relieved Conditions," Welding Journal, New York, Vol. 19, February 1940, pp. 615-55). The as-welded figure was 35,300 lb. per sq. in. and stress-relieved, 30,700, showing stress relief to be harmful to fatigue properties. The endurance limit of the welded joint was found to be 26,400 lb. per sq. in. for both the as-welded and stress-relieved conditions. The weakest part of the joint was in the base metal at the junction of the grain-refined zone and the unaffected parent metal.

Flame-Hardening of Sheaves

Although many objects are being flame-hardened, metal sheaves or grooved wheels deserve particular attention because they can be hardened at little cost and because a remarkable increase in the length of service can be attained by the flame-hardening operation.

Only the bottom portion of the rope groove need be hardened and this can be accomplished without altering the properties of other portions of the sheave. Special flame-hardening equipment can be purchased for large scale operations, but the hardening can also be accomplished in any contract welding shop with equipment that is already available. Small sheaves (12 in. and less) are usually forged and hence they are frequently hardened by heating, quenching and tempering but the larger sheaves are often cast of S.A.E. 1045 steel and are not heat-treated in any way.



Courtesy Linde Air Products Co.

Sheaves provide an excellent example of the economy of flame-hardening. Only the bottom portion of the rope groove need be hardened in order to increase its life substantially

In order to practice flame-hardening, the steel should be analyzed for carbon content because steels containing less than 0.4 per cent carbon cannot be flame-hardened. The sheave is slowly rotated in a lathe while an oxyacetylene flame is played on the surface being held on a special support by the operator. Very large sheaves must be supported on a special fixture actuated by a variable-speed motor. Hardening is done at the rate of 5-6 in. per minute. The inner cones of the flame tips are held $\frac{1}{8}$ to 1/18 in. from the surface of the groove. Burner heads having six or eight flames are mounted on the blowpipe—and for very large sheaves, two or even three-burner heads may be necessary. The burner blocks are set with the long axis parallel to the groove.

Quenching is accomplished by a water-spray tube which consists of a slightly flattened copper tube having several holes drilled in it. A water-cooled shield may be inserted in the groove after having completely traversed the sheave, so that partial annealing does not occur when the flame approaches the part of the groove that has already been hardened. The hardened case has a thickness of about $\frac{1}{8}$-in. thick and a hardness of about 50 Rockwell C.

Metallurgical Terms

Progressive Torch Normalizing Pass

The term applied to the progressive method of normalizing steel with a welding torch by passing the oxyacetylene flame slowly over the surface of the steel in such a manner that each section traversed by the flame is heated to a temperature above 1,600° F. (for carbon molybdenum steel) and allowed to cool in still air.

Rupture Strength of Tubing Steels

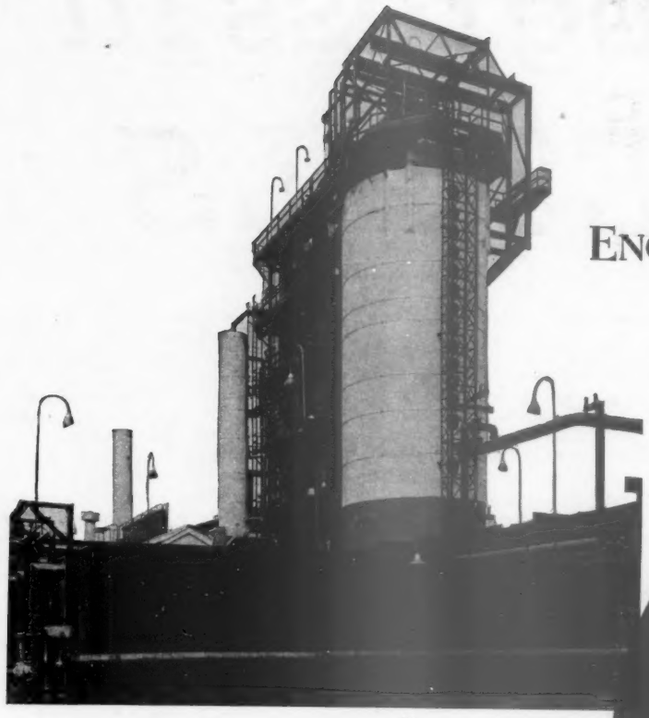
THE entire range of pipe-still tube materials is completely described in the recent Technical Bulletin 20 of the Timken Steel & Tube Division. In addition to the usual data on analysis, physical properties, temper embrittlement, coefficient of expansion and working quality, this bulletin gives data on the less-known properties such as rupture strength, oxidation resistance, relative cost, and creep strength. A brief summary of these properties for the regular Timken steels are given in the tabulation on this page.

The interest of the industry in 7 per cent chromium steels is a recent development. Inasmuch as complete data are not given in the tabulation concerning these steels the reason for this popularity cannot be ascertained. However, the cost is not much greater than the cost of the common 5 per cent chromium steels, and they are somewhat more resistant to oxidation.

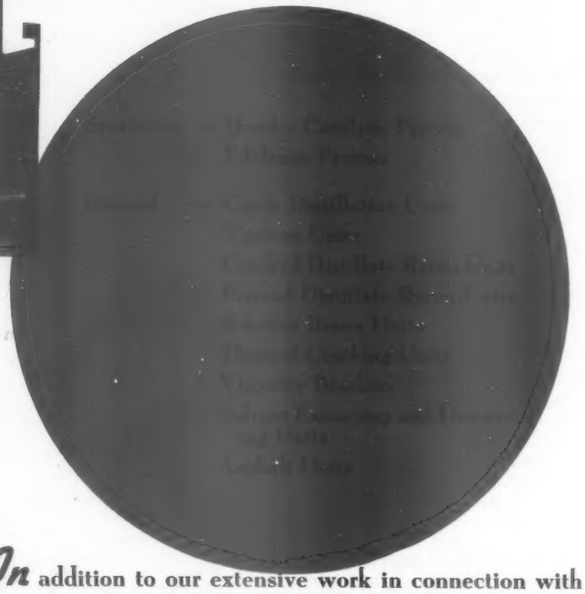
BRIEF SUMMARY OF SPECIAL PROPERTIES OF TUBE STEELS

Steel—	Carbon steel	Carbon moly	D M	2% Cr. ½% Mo.	Sicromo 2	2½% Cr. 1% Mo.	Sicromo 3	4-6% Cr.-Mo.	Sicromo 5S	Sicromo 5M	Alcrosil 5	Sicromo 7	Sicromo 7M	Sicromo 9M	18-8 Cr.-Ni.
Analysis:															
Carbon	0.1-0.2	0.1-0.2	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.15 max.	0.07 max.
Silicon	0.25 max.	0.25 max.	0.5-1.0	0.5 max.	1-1.4	0.5 max.	1-1.4	0.5 max.	1-2	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.75 max.
Chromium	...	1.25	2	2	2.25	3	5	5	5	5	5	7	7	9	17-20
Molybdenum	...	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	1	1	...	...
Others	...	...	...	...	...	...	...	...	...	...	Al 0.5	...	...	...	8-10
Oxidation resistance at 1,250° F.*	1.95	2.03	1.49	1.15	0.72	...	0.08	0.65	0.03	0.06	0.02	0.03	0.02	0.01	0.01
Rupture strength at 1,000° F.†	2,800	5,750	9,000	..	11,750	...	11,250	14,500	10,000	...	13,000	...	...	...	....
Creep strength at 1,000° F.‡	2,700	6,700	13,000	5,600	5,700	6,400	5,400	7,600	5,450	...	4,400	...	...	...	10,700
Relative cost Carbon steel = 1.0	1.0	1.47	1.92	2.13	2.21	2.42	2.54	3.3	3.48	3.53	3.6	3.65	3.82	5.34	11.0

*Loss in grams per square inch after heating in air for 1,000 hours at 1,250° F. †Load in pounds per square inch which will lead to rupture in 100,000 hours of service at 1,000° F. ‡Creep rate of 1 per cent in 100,000 hours of service at 1,000° F.



ENGINEERS AND CONSTRUCTORS *for the* PETROLEUM INDUSTRY



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Substantial Drop Shown In Mid-Continent Runs To Stills in September

CRUDE runs to stills in Mid-Continent refineries are being maintained at a level about 22,585 bbl. below those of August, estimates based on reports from individual refiners indicate. Total runs to stills for the area are estimated at 535,735 bbl. daily, as compared with 558,320 bbl. in August and 550,830 bbl. in September 1939.

The decrease was general throughout all districts, with the largest drop being shown in East Texas; second largest was in Oklahoma and third in North Louisiana. The East Texas decline was due mainly to the plant of East Texas Refining Co. being shut down for repairs. The Oklahoma drop was due largely to reduced schedules at the Ponca City plant of Cities Service Oil Co. and several other large plants. In North Louisiana the drop was caused by Arkansas Fuel Oil Co. lowering runs at its Bossier City plant by 3,000 bbl. Kansas' runs were lowered by 3,150 bbl. due to reduced runs at several large refineries.

Cosco Oil Co.'s refinery at Wynnewood, Okla., is to be placed on stream soon after the first of October; the plant is now being reconditioned. It will process about 2,000 bbl. daily.

Largest refinery-construction project now under way in the Mid-Continent is at Magnolia Petroleum Co.'s Fort Worth refinery where the company is raising the crude capacity to 20,000 bbl. and installing a polymerization unit. At its Levelland, Tex., plant, Motor Fuels, Inc., is raising the capacity from 3,500 to 5,000 bbl. and making other improvements.

Mid-Continent Crude Runs

Average Daily (Barrels)

(Advance estimate compiled by The Oil and Gas Journal)

	1938	1939	1940
January	529,710	503,405	532,085
February	507,985	494,910	526,785
March	491,935	497,180	531,645
April	532,120	523,535	532,845
May	527,315	534,535	556,100
June	540,005	541,090	552,935
July	557,520	550,755	547,940
August	554,810	556,095	†558,320
September	555,695	550,830	535,735
October	531,325	547,725	.....
November	524,035	537,375	.....
December	503,530	527,230	.....

Operations by Refinery District

Daily crude runs

	Sept.	Aug.	Decr.*
Arkansas	30,360	31,700	1,340
East Texas	36,400	42,450	6,050
Kansas	135,550	138,700	3,150
Mississippi	1,000	1,000	.....
N. Central Texas	42,670	44,375	1,705
North Louisiana	40,870	44,195	3,325
Oklahoma	151,695	156,450	4,755
Southwest Texas	16,150	16,750	600
W. Texas Panhandle	81,040	82,700	1,660
Total	535,735	558,320	22,585

*Decrease. †Revised.

OKLAHOMA

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Anderson-Prichard Ref. Corp., Cyril	8,000	6,500	6,500
Bareco Oil Co., Barnsdall	5,000	3,500	4,000
Bell Oil & Gas Co., Granfield	4,500	3,000	3,000
Ben Franklin Ref. Co., Ardmore	6,000	3,500	3,750
Black Gold Ref. Co., Oklahoma City	2,500	2,000	2,000
Champlin Ref. Co., Enid	16,000	14,500	15,000
Cities Service Oil Co., Okmulgee	4,000	(*)	(*)
Cities Service Oil Co., Ponca City	12,000	8,065	10,000
Continental Oil Co., Ponca City	28,000	19,200	20,000
Cosco Oil Co., Wynnewood	2,500	(*)	(*)
Cushing Ref. & Gasoline Co., Cushing	4,500	4,400	4,000
Deep Rock Oil Ref. Co., Cushing	10,000	9,000	9,000
Johnson Oil Ref. Co., Cleveland	6,000	4,000	4,000
Mid-Continent Pet. Corp., West Tulsa	35,000	22,500	23,000
Omar Ref. Co., Garber	5,000	(*)	(*)
Phillips Pet. Co., Okmulgee	6,000	4,730	5,000
Peppers Gasoline Co., Oklahoma City	500	400	400
Rock Island Ref. Co., Beckett	7,500	6,500	6,200
Sinclair Ref. Co., Sand Springs	6,000	5,500	5,600
Sun Oil Co., Yale	5,000	1,800	1,800
Sunray Oil Co., Allen	7,000	4,500	4,600
Texas Co., West Tulsa	16,000	14,600	15,000
Tide Water Oil Co., Drumright	12,000	10,000	10,000
Wilcox Ref. Division, Bristow	5,000	3,500	3,600
Total	214,000	151,695	156,450

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Bareco Oil Co., Wichita	5,000	5,000	5,000
Bay Pet. Co., McPherson	4,000	2,700	3,000
Chanute Ref. Co., Chanute	2,000	1,000	1,000
Consumers Cooperative Assn., Phillipsburg	3,000	2,670	2,750
Derby Oil Co., Wichita	8,000	6,000	6,000
El Dorado Ref. Co., Eldorado	7,000	5,500	5,000
Falcon Ref. Co., Inc., Great Bend	2,500	1,100	1,200
Globe Oil & Ref. Co., McPherson	15,000	12,000	12,000
Kanotex Ref. Co., Arkansas City	12,000	7,000	7,000
National Ref. Co., Coffeyville	8,000	8,000	8,000
Phillips Pet. Co., Kansas City	23,000	16,330	17,000
Roper Pet. Co., Parsons	750	(*)	(*)
Shallow Water Ref. Co., Scott City	2,000	1,250	1,250
Sinclair Ref. Co., Coffeyville	12,000	9,500	10,000
Sinclair Ref. Co., Argentine	11,000	8,000	10,000
Skelly Oil Co., Eldorado	23,000	19,700	20,000
Socony-Vacuum Oil Co., Inc., Augusta	25,000	20,000	19,600
Standard Oil Co. (Indiana), Neodesha	7,500	6,500	7,000
Vickers Pet. Co., Potwin	4,000	3,300	3,500
Total	175,250	135,550	138,700

*Shut down.

ARKANSAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Berry Asphalt Co., Waterloo	2,000	1,500	1,000
Henry H. Cross, Smackover	6,000	3,000	3,500
Lion Oil Ref. Co., El Dorado	17,000	16,000	17,000
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Root Ref. Co., El Dorado	10,000	7,660	8,000
Stephens Ref. Co., Stephens	700	200	200
Total	38,200	30,360	31,700

NORTH LOUISIANA

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Arkansas Fuel Oil Co., Bossier City	23,000	20,000	23,000
Atlas Pipe Line Co., Shreveport	12,500	5,000	6,000
Bayou State Oil Corp., Hosston	800	800	700
Evansville Oil Corp., Cotton Valley	1,000	670	645
Pennant Ref. Co., Princeton	750	400	500
Premier Oil Ref. Co. of Texas, Cotton Valley	3,500	3,000	3,000
Rodessa Oil & Ref. Corp., Cedar Grove	12,000	8,000	8,000
Stanolind Oil & Gas Co., Superior	5,000	3,000	2,350
Total	58,550	40,870	44,195

MISSISSIPPI

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Edgar C. Johnson, Vicksburg	4,000	1,000	1,000

EAST TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Beacon Oil & Ref. Co., Henderson	4,500	(*)	(*)
Danciger Refs., Inc., Longview	6,000	(*)	(*)
East Texas Ref. Corp., Longview	10,000	(*)	5,000
Gladewater Ref. Co., Gladewater	3,000	2,500	2,000
Hurricane Pet. Corp., Overton	5,000	(*)	(*)
Hurricane Pet. Corp., Arp.	3,300	(*)	(*)
Independent Ref. Co., Arp.	5,000	2,500	2,600
Lynch Ref. Co. No. 1, Kilgore	3,000	2,000	2,400
Lynch Ref. Co. No. 2, Kilgore	4,000	2,700	2,900
Magnolia Pet. Co., Corsicana	5,000	3,500	3,500
McMurrey Ref. Co., Tyler	10,000	4,500	4,550
Premier Oil Ref. Co. of Texas, Gregglown	4,000	3,000	3,000
Talco Asphalt & Ref. Co., Mount Pleasant	8,000	6,700	7,000
Texas Co., Dallas	16,000	9,000	9,500
Total	86,800	36,400	42,450

*Shut down.

NORTH CENTRAL TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Baird Refining Co., Baird	1,500	1,200	900
Bryson Pipe Line & Refining Co., Bryson	2,000	1,000	950
Bryson Ref. Co., Inc., Bryson	1,500	700	1,200
Coleman Ref. Co., Coleman	800	500	400
Continental Oil Co., Wichita Falls	6,000	4,600	4,800
Cosden Pet. Corp., Graham	2,500	900	1,000
Falls Ref. Co., Wichita Falls	2,500	700	900
Gratex Ref. Co., Graham	500	300	300
Gulf Oil Corp., Fort Worth	8,000	6,400	6,500
Jacksboro Ref. Co., Jacksboro	400	70	100
La Salle Pet. Corp., Burkburnett	3,500	800	800
Magnolia Pet. Co., Fort Worth	7,500	6,000	6,000
Onyx Ref. Corp., Mankins	2,000	450	450
Muenster Ref. Co., Muenster	1,800	500	600
North Texas Ref. Co., Gainesville	1,000	600	600
Ohio Oil Co., Fort Worth	5,000	3,750	3,750
Olney Oil & Ref. Co., North Olney	3,500	2,000	2,000
Panhandle Ref. Co., Wichita Falls	4,200	1,700	2,600
Panhandle Ref. Co., Luecders	1,500	800	725
Sinclair Ref. Co., Fort Worth	6,000	5,000	5,000
Southland Ref. Co., Olney	500	100	200
Taylor Ref. Co., Taylor	4,000	(*)	(*)
Texas Pacific Coal & Oil Co., Caddo	800	500	500
Tydal Ref. Co., Gainesville	2,000	600	600
W. T. Waggoner est., Vernon	5,000	3,500	3,500
Total	74,000	42,670	44,375

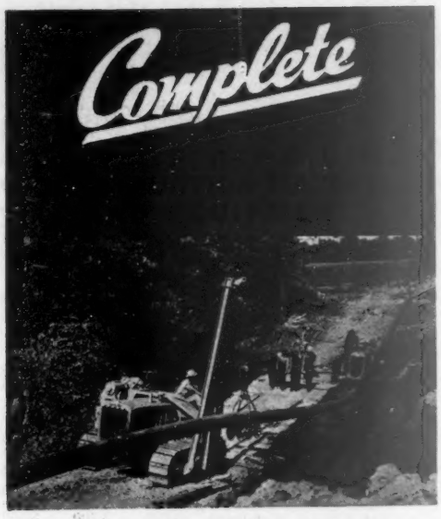
*Shut down.

SOUTHWEST TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Border Oil & Ref. Co., Sullivan City	1,000	400	700
Eggleston Oil Products Co., Three Rivers	1,000	700	700
Humble Oil & Ref. Co., San Antonio	5,000	3,500	4,000
Magnolia Pet. Co., Luling	8,000	4,500	4,500
Phoenix Ref. Co., San Antonio	2,000	1,200	1,000
Phoenix Ref. Co., Pettus	900	(*)	600
Pioneer Oil & Ref. Co., Somerset	2,000	460	750
Rado Ref. & Prod. Co., McAllen	800	390	500
Texas Co., San Antonio	5,000	5,000	4,000
Total	25,700	16,150	16,750

WEST TEXAS AND PANHANDLE

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Aero Gas & Ref. Co., Fort Stockton	350	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Cosden Oil Co., Big Spring	14,000	11,000	11,000
Danciger Refs., Inc., Pampa	6,500	5,000	4,500
Danube Oil Corp., Borger	800	600	600
Gulf Oil Corp., Sweetwater	7,000	6,300	6,500
Howard County Ref. Co., Big Spring	2,000	600	650
Motor Fuels Corp., Levelland	4,000	2,900	3,200
Moutray Oil Co., Hawley	1,200	725	850
Onyx Ref. Corp., Hawley	2,000	1,675	1,750
Payward Ref. Co., Shamrock	1,000	350	450
Phillips Pet. Co., Borger	35,000	26,670	26,900
Post Refining Co., Rotan	800	350	400
Shamrock Oil & Gas Corp., Sunray	3,000	2,000	2,000
Shamrock Oil & Gas Corp., Lefors	1,600	750	850
Stamford Ref. Co., Stamford	450	100	300
Standard Oil Co. of Texas, El Paso	14,000	7,100	8,000
Star Light Ref. Co., Ballinger	1,000	100	550
Texas Co., El Paso	2,000	1,500	1,500
Texas Co., Amarillo	6,000	4,000	4,000
Western Ref. Co., Fort Stockton	1,000	600	800
Wickett Pet. Co., Wickett	3,500	620	800
Total	119,700	81,040	82,700



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Pipe-Line Activity

Magnolia Awards Contract to T. R. Jones for K.M.A. Line

Magnolia Pipe Line Co. awarded contract to T. R. Jones of Dallas, Tex., for the construction of a 42-mile 8-in. crude-oil pipe line from the K.M.A. field of Wichita County, North Texas, to the company's pumping station at Ringgold in northern Montague County. Work on laying this line is getting under way this week.

The new carrier is expected to connect into the Hull-Silk field of north Archer County, where it is reported the company will lay 16 miles of 4-in. line and 2 miles of 6-in. line as a gravity gathering system. Magnolia reportedly will build 65,000 bbl. storage capacity in that field. The new line is also expected to give outlet to the Ross field south of Jolly in Clay County and to the recent discovery of Walter Gant on the Vothsberger lands in northeast Archer County.

Miners' Union Will Participate In Tennessee Hearing

WASHINGTON, D. C.—The Federal Power Commission announces that districts Nos. 19, 20, 23, 28 and 30 of the United Mine Workers of America have been granted the privilege of participation, but not intervention, in the public hearing scheduled to begin on September 23 at Washington concerning the application of Tennessee Gas & Transmission Co. for a certificate of public convenience and necessity to construct a natural-gas pipe line to serve cities in Tennessee and Asheville, N. C.

These districts may participate in the hearing to the extent of introducing relevant and material evidence and may also make oral arguments and file briefs, the commission's order states. Their petition to become interveners and parties to the proceeding was denied as not shown to be necessary as, under the Natural Gas Act, the commission does not have unlimited jurisdiction, but a certificate is required to be obtained only when a natural-gas company undertakes construction of facilities to a market in which natural gas is already being served by another company. The commission found that none of these petitioners is presently engaged in the natural-gas operations.

Tennessee Gas & Transmission Co. proposes to bring natural gas from northern Louisiana to Nashville, Chattanooga and Knoxville, Tenn., and to Asheville, N. C., and vicinity. These areas, the applicant states, are now served with manufactured gas.

Permission to intervene in this proceeding has been granted to the Kentucky Natural Gas Corp., the Chattanooga Gas Co. and to the Southern Natural Gas Co. Privilege of participation to the extent of introducing evidence, making oral arguments and filing briefs has been previously granted by the commission to the following:

Southern Appalachian Coal Operators Association, Virginia Coal Operators Association, Harlan County Coal Operators Association and Hazard Coal Operators Association, on a joint petition; Railway Labor Executives Association, Alabama Coals, Inc.; Association of American Railroads and certain of its members; Kentucky Coal Agency; the Bituminous Coal Division of the Department of the Interior; National Coal Association; Clinchmore Coal Mining Co., and Southern Collieries, Inc.

Tennessee Gas & Transmission Co. has established its principal office at 401 Chattanooga Bank Building, Chattanooga, Tenn., with John E. Buckingham, secretary and treasurer, in charge. The president of the company is Curtis B. Dall, 70 Wall St., New York. A branch office is maintained at 435 Third National Bank Building, Nashville, Tenn.

Russia Will Lay 170-Mile Line in Ural Mountains

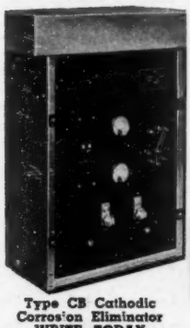
PITTSBURGH, Pa.—Steel companies here have received a good share of a pipe order for a 170-mile line in Soviet Russia. A contract has been placed for 25,000 tons of 12¾-in. pipe to be laid in the Ural Mountains. Companies participating are National Tube Co., Jones & Laughlin Steel Corp., Pittsburgh Steel Co., the Spang Chalfant division of the National Supply Co. and the Young town Sheet & Tube Co. It is reported the pipe will be moved by way of Vladivostok.

Pan American Considers Laying East Texas-Texas City Line

Pan American Pipe Line Co. is giving consideration to a project for the laying of a 200-mile crude-oil pipe line from the East Texas field to the company's lines serving the Pan American refinery at Texas City. Pipe sizes for the contemplated line are 8-in. and 10-in. The company is studying means by which it may transport crude oil for the refinery more economically. An alternative to building this line is the purchase of line now in service or the laying of a shorter line which would deliver oil to a trunk line of another company.

B & M Lays Line for Magnolia Pipe Line

B & M Construction Co., Oklahoma City, Okla., started construction this week on an 18-mile 6-in. crude-oil line from Maud, Okla., to the Panaova station of Sinclair Refining Co.'s main trunk line.



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Pipe-Line Personalities . . . . Thomas R. Jones

THOMAS R. JONES

THOMAS ROBERT JONES, better known to his friends and associates as "Tom," was born 49 years ago near Knoxville, Tenn. He was reared in Oklahoma and his first job was working on the railroad. After 2 years of railroading he left this job to go to the oil fields.

From the oil fields he came to Tulsa with $3.60 in his pocket. He pawned his suitcase for a stake. He secured employment as chauffeur for the late Glen T. Braden, for whom he worked for several years. This job was highlighted by an experience he recalls with a good deal of pleasure. He drove President Theodore Roosevelt, who was a personal friend of Mr. Braden.

Mr. Jones began his pipe-lining career as a ditching machine operator. His first venture into contracting was an association with Eugene Braden. His first contract was a ditching venture, and from there he went on into pipe-line construction. Later he formed the Oklahoma Contracting Co. and has since operated as Oklahoma Contracting Corp. and T. R. Jones. He has constructed major lines in almost every state and has built lines of all sizes and under all conditions during his 22 years' experience as a pipe-line contractor. All indications point to the conclusion that he will continue in his chosen profession of a "pipeliner."

Socony-Vacuum Pipe Line Will Displace Barge Shipments

Barge shipments of refined products by canal in western New York State will be displaced to a considerable extent by transportation through the 171-mile gasoline line from Buffalo to Syracuse which is now being built for Socony-Vacuum Oil Co., Inc., by C. C. Whitaker Co. The line consists of 6-in. and 4-in. pipe. In welding the 6-in., 17-lb. pipe, a ⅛-in. rod is used to run the stringer bead; a 5/32-in. rod is used for the second bead. The weld is finished with a ¼-in. rod. The pipe is seamless and is delivered in random lengths of 40 to 45 ft. As much as 18,000 ft. has been laid in a 10-hour day by one spread. On an average day the amount of line laid is between 13,000 and 15,000 ft. The line is being laid by two spreads. Total for both spreads is usually better than 5 miles per day.

The line, which will be ready for operation about November 1, and will enable the company's refinery in Buffalo to transport gasoline to Rochester and Syracuse without the necessity of relying on the Barge Canal, which is closed to navigation during the winter months.

Opening of the pipe line is expected to have the effect of reducing the volume of petroleum products moving over the western part of the Barge Canal. For several years petroleum products have led all other commodities handled on the canal. The failure of U. S. Army engineers to act favorably on a proposal to deepen the western end of the canal was a factor in the Socony-Vacuum decision to build the pipe line. Because oil tankers operating on the western part of the barge system could not be loaded to capacity, the company decided that pipe-line shipments would be more economical.

Construction of Texas-New Mexico Line in West Texas Is Starting

Four carloads of pipe were unloaded at Midland, Tex., last week in preparation for building Texas-New Mexico Pipe Line Co.'s 105-mile gravity line from the Slaughter field in Hockley County to a trunk line at Midland. Surveys for the line are reported completed and right-of-way is all purchased. Crude will run by gravity to Midland. Latex Construction Co. has the contract for laying of the line.

Welding Contracts Let To H. C. Price Co.

H. C. Price Co. of Bartlesville, Okla., has been awarded contracts for electric welding on the following pipe lines:

For Magnolia Pipe Line Co.—17 miles of 6-in. and 8-in. near East St. Louis, Ill.; general contractor, Sheehan Pipe Line Construction Co.

For Natural Gas Pipeline Co. of America—100 miles of 20-in. from Geneseo, Ill., to Rockford, Ill.; general contractor, Dempsey-Wilson Construction Co.

For National Refining Co.—57 miles of 8-in. from Cedarvale, Kans., to Coffeyville, Kans.; general contractor, Williams Brothers Corp.

THE TIME TO SAVE MONEY ON A PIPE LINE IS Before CONSTRUCTION

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is the acknowledged authority on Pipe-Line matters. This is reflected in the comparative Pipe-Line circulations of leading oil journals.

The Oil and Gas Journal	2700
2nd Paper	1069

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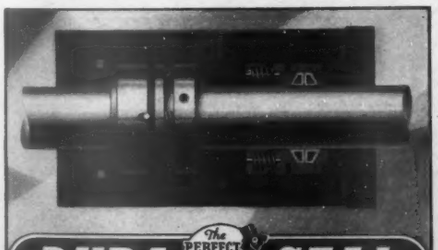

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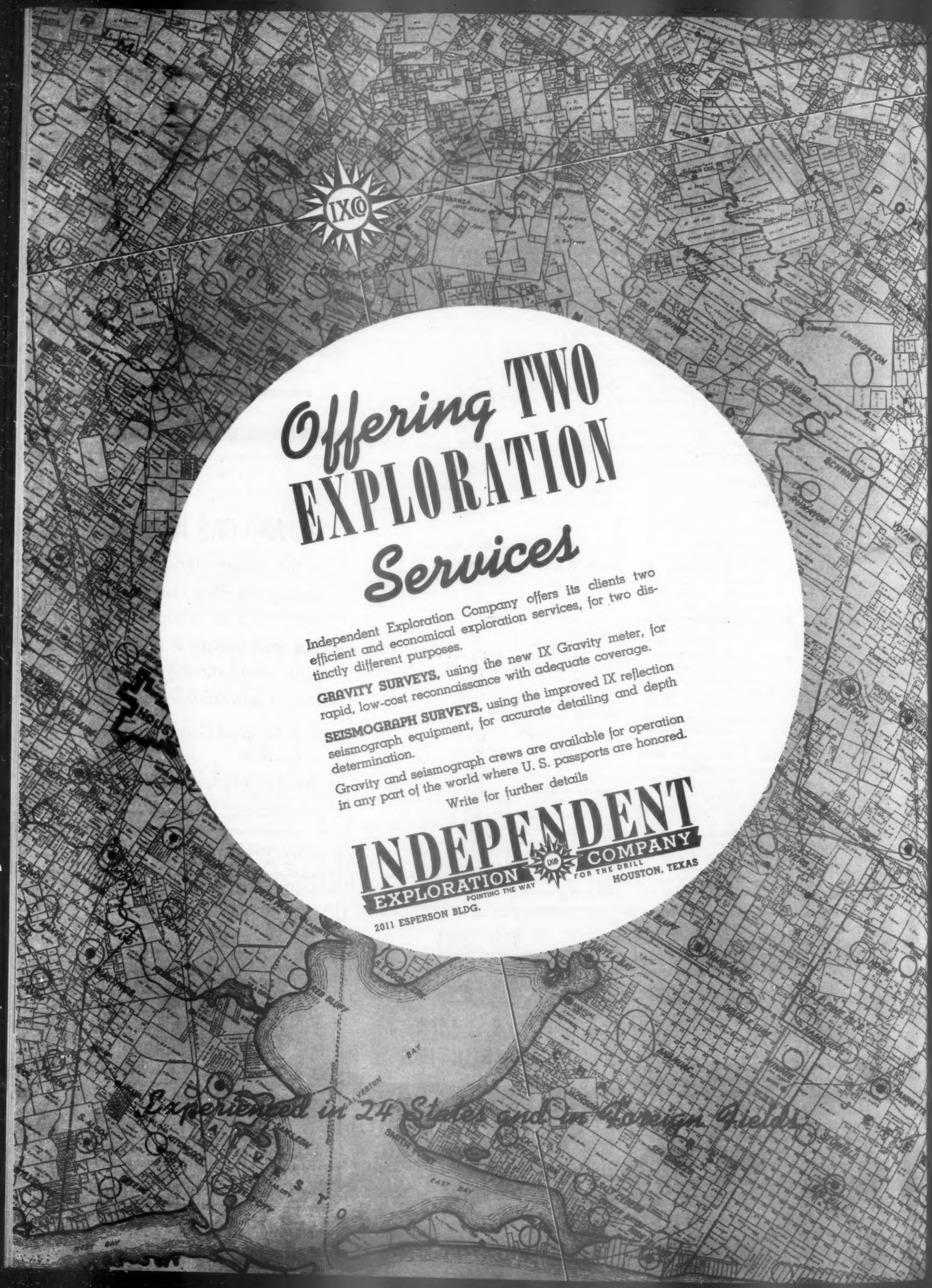
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FIELD DEVELOPMENTS...

HIGHLIGHTS FROM THE WEEK'S NEWS—

WEST TEXAS—The Upton County portion of the McElroy field was given a 2½-mile south extension during the week when Texas Pacific Coal & Oil Co. prepared to complete its long-testing outpost. New wildcats featured the northern West Texas area.

NORTH TEXAS—One possible new discovery in Wise County, together with plans for three new wildcat tests for the county, drew some of the Fort Worth basin play southward during the week.

WEST CENTRAL TEXAS—A new Palo Pinto lime field is in prospect for the area immediately north of the Avoca field in Jones County, also producing from the Palo Pinto lime. Two new wildcats are preparing to start in Stephens County.

SOUTHEAST NEW MEXICO—The discovery of a new sweet-gas field in Eddy County led the developments of the week. Production is estimated at 6,000,000 cu. ft. daily from the 1,550-ft. level.

TEXAS GULF COAST—A new Wilcox strike in San Jacinto County revives interest in the Texas Gulf Coast sector of the Wilcox trend.

SOUTHWEST TEXAS—Frio-Vicksburg trend in limelight as preparations made to test prospective pool opener in Starr County and another wildcat in Jim Wells County logs favorable showings.

LOUISIANA GULF COAST—Delta Farms field, La Fourche Parish, apparently extended southeast. Neale field, Beauregard Parish, defined to the east.

OKLAHOMA—Two oil pools were opened in Seminole County, one east and one west of the old Seminole City field. A Wilcox sand pool was found south of Bristow, Creek County.

KANSAS—An oil pool was opened in the Clover gas area, Cowley County. The Keesling pool, Rice County, was extended ½ mile northward. A pool opener in Stafford County was completed. Fifty new tests were reported.

NEBRASKA—The Falls City pool, Richardson County, was extended ¾ mile southward and to within 1¾ miles of the Kansas line. The southeastern Nebraska activity is increasing, with 25 operations reported in Richardson and Nemaha counties.

LA-ARK-TEX—New Wilcox pool is indicated in the Jena district of La Salle Parish. McKamie pool is extended by a well which is better than the discovery well.

ILLINOIS—As production from the large fields declines, new production is found in the eastern part of the state. Salem and Tonti may be linked.

COMPLETIONS IN ALL FIELDS . . .

(Week Ended September 21, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	108	13	6	127	4,506	2,634
Ohio	7	11	8	26	834	547
Indiana	6	0	4	10	322	213
Kentucky	7	2	3	12	345	509
Illinois	61	1	29	91	2,779	2,582
Michigan	10	1	8	19	847	1,054
Kansas	25	1	7	33	1,287	942
Oklahoma	14	3	9	26	1,296	1,312
Texas:						
North Central Texas	32	2	16	50	2,095	1,741
West Texas	26	0	6	32	1,362	1,310
Texas Panhandle	5	2	2	9	440	305
Eastern Texas	13	2	4	19	437	537
Gulf Coast Texas	21	0	3	24	929	995
Southwest Texas	25	1	16	42	1,601	1,831
Total Texas	122	7	47	176	6,864	6,719
North Louisiana	10	4	2	16	434	399
Gulf Coast Louisiana	11	2	6	19	762	489
Total Louisiana	21	6	8	35	1,196	888
Arkansas	4	0	1	5	138	192
Montana	4	2	2	8	162	122
Wyoming	2	0	0	2	119	102
Colorado	0	0	0	0	12	16
New Mexico	4	0	4	8	412	413
California	14	0	4	18	760	682
Miscellaneous	4	2	3	9	159	35
Total United States	413	49	143	605	22,030	18,925
Total previous week	402	37	142	582		
Week ended Sept. 23, 1939	393	48	117	558		

SUMMARY OF OUTSTANDING FIELDS . . .

(Week Ended September 21, 1940)

FIELD—	Active operations	Oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS					
E.M.A.	57	7	4,074	1,452	31,598
Wasson	43	10	4,379	942	29,864
Ector County	51	8	8,453	2,275	47,900
Hull-Silk	47	6	5,846	352	7,067
East Texas	21	5	254	25,909	374,848
OKLAHOMA					
Cumberland	9	0	0	4	2,000
Oklahoma City	12	0	0	838	94,150
KANSAS					
Bornholdt	15	3	1,746	119	3,090
Stoltenberg-Wilkens	17	3	1,149	114	4,100
Burnett	6	0	0	121	5,805
Trapp	15	1	350	573	15,950
LA-ARK-TEX					
Olla, La.	10	5	650	36	3,910
Cotton Valley, La.	4	0	0	157	13,500
MICHIGAN					
Adams	18	1	1,620	2	1,950
ILLINOIS					
Salem	59	16	6,423	2,887	152,403
Centralia	10	1	248	716	24,850
Louden	35	13	2,251	963	73,694
Other basin fields	253	41	9,557	2,492	98,949
Old fields	.....	....	.....	.....	11,421
NEW MEXICO					
Lea County	44	2	550	2,558	82,020
Eddy County	51	2	605	616	16,400
MISSISSIPPI					
Tinsley	9	2	985	79	25,485

By

STAFF CORRESPONDENT

Two New Fields Found With Chances For Four More Good

MATTOON, Ill., Sept. 23.—Illinois had another busy week as 91 wells were completed. Of these 13 were producers in the Louden field with an average of 173 bbl. per well; 18 were in Salem, including 1 dry hole. Of the Salem producers, the average initial production was 378 bbl. Outside of the major pools, there were 41 successfully completed oil wells with an average initial of 239 bbl.

At the end of the week, two new pools appeared to be definitely established and four additional wildcats were showing oil, although their potentialities are not as yet known.

D. C. Colbeck 1 Egyptian Tie & Timber, 19-8s-10e, 7 miles north of Shawneetown, in Gallatin County, started production from the McClosky lime at 2,730 ft. to give Gallatin County its second pool.

The second area was opened to exploration, 1½ miles south of Carmi, in White County, by Madza-Palmer 1 Lee Storms, 26-5s-9e, which was swabbing oil at the rate of 4 to 6 bbl. an hour Friday from the McClosky lime at 3,155 ft. The well is north of the Storms field and it was hailed either as a pool opener or an extension of that field.

Wildcats Near Completion

The four wildcat ventures near completion were Texas 1 Paul Chance, in 4-2n-2e, between the Lake Centralia-Salem and Tonti pools of Marion County; Neff-Cochrane 1 Garner, in 36-4s-10e, in Phillips Township of White County; McBride 1 Hon, in 33-3s-14w, and Walker-Arrow 1 Hon, in 5-4s-14, both in White County.

The Chance well is being completed in the McClosky lime as a possible link between the two Marion pools. The Garner well is testing the Aux Vases sand after a shot of nitroglycerin, and the other two White County wells were drilled as possible extensions of the Calvin field but found the Benoist sand, from which the Calvin wells produce, was dry. Drilled deeper they recovered saturation in the different formations in which they are being completed.

ILLINOIS COMPLETIONS

Bond County

Miller 1 McCario ..... SW NW SW 27-7n-4w
Est. 1,000,000 cu. ft. gas 595-609 ft., T.D. 612 ft.
Arron Drlg. 1 Stoneburner ..... SW SW NE 3-6n-2w
Dry, Golconda 805 ft., Cypress 886 ft., Paint Creek 938 ft., no Bethel, Aux Vauses 1,080 ft., Ste. Genevieve 1,105 ft., T.D. 1,110 ft.

Clark County

Allen & Sheritt 2 Harper ..... SW SW NW 5-11n-14w
Dry, Trenton 2,258 ft., slight show oil 2,347-2,417 ft., Decorah 2,417 ft., Platteville 2,431 ft., T.D. 2,440 ft.
H. R. Snavely 1 Schofield ..... SE NE SE 6-11n-11w
Dry, Trenton 3,272 ft., St. Peter 3,945 ft., H.F.W. 3,955 ft., T.D. 3,960 ft.

Clay County

Lagall 1 Huffman ..... W½ SW NW 20-4n-6e
St. Louis 2,917 ft., T.D. 2,926 ft.

Clinton County

Hamburg 1 Kleinkorte ..... NE NE SW 8-1n-3w
Location abandoned.
Acadia Roy. 1 M. Knolhoff ..... SW NW NW 11-1n-2w
Pumped 30 bbl. oil and 35 bbl. water, Benoist 1,324-26 ft.

Centralia Field—Clinton-Marion Counties

Shell 3 Dunbar ..... E½ SW NW 12-1n-1w
Pumped 45 bbl., Benoist 1,353-65 ft.

Cumberland County

Carter Bros. 1 H. Howe ..... NW NW NE 24-10n-10e
Dry, T.D. 200 ft.

Edwards County

Superior 3 M. Works ..... NW SW NW 18-2s-11e
Flowed 1,400 ft., 5,000 gal. acid, Ste. Genevieve 3,061 ft., T.D. 3,110 ft.
Superior 5 M. Works ..... SE NE SW 18-2s-11e
Pumped 100 bbl., 4,000 gal. acid, McClosky 3,081-85 ft., T.D. 3,113 ft.
Jarvis Bros. 1 A. C. Wick ..... NE NW SE 24-2s-10e
Pumped 65 bbl., 4,000 gal. acid, McClosky 3,111-18 ft., T.D. 3,122 ft.
Noah & Morrison 3 G. S. Works ..... S½ SE SE 13-2s-10e
Flowed 384 bbl. through ½-in. choke, 3,000 gal. acid, McClosky 3,132-44 ft.

Fayette County

L. Williams 1-A Sather ..... SW SE SW 16-7n-3e
Dry, show oil and water after shots 1,516-45 ft. in Cypress, T.D. 1,800 ft., P.B. to 1,545 ft.
C. F. Stelle 1 Campbell ..... SE SE SE 1-6n-2e
Dry, Glen Dean 1,320 ft., Cypress 1,562 ft., T.D. 1,582 ft.
Jennings 1 Morgan ..... SW SE SW 24-6n-2e
Dry, Glen Dean 1,443 ft., Cypress sand 1,608-10 ft., T.D. 1,665 ft.
L. Grandstaff 1 Severns ..... NW SE NW 18-6n-3e
Dry, Cypress sand 1,620 ft., no Benoist, T.D. 1,800 ft.

Fayette County—Louden Field

Carter 1 L. L. Phillips ..... SW SE NW 1-8n-3e
Pumped 108 bbl., 20-qt. shot 1,514-20 ft., Cypress sand 1,505-35 ft.
Carter 1 John Miller ..... NE SE SE 9-8n-3e
Pumped 450 bbl. oil and 18 bbl. water, 10 and 20-qt. shots, Cypress sand 1,496-1,537 ft., Paint Creek 1,582-96 ft.
Carter 10-6 Bob Fortner ..... SW SW SW NE 10-8n-3e
Gas input well, Cypress 1,499-1,541 ft., Paint Creek 1,577-1,606 ft.
Carter 2 Botterbach ..... NW NW SW 29-8n-3e
Pumped 108 bbl. oil and 36 bbl. water, 5 and 10-qt. shots, Cypress 1,427-62 ft., Paint Creek 1,504-17 ft.
Carter 4 Lizzie Smith ..... NW SE SE 31-8n-3e
Pumped 570 bbl., 30 and 35-qt. shots, Cypress 1,432-78 ft., Bethel 1,538-60 ft.
Carter 1 Cora Miller ..... SE SE NW 17-7n-3e
Pumped 96 bbl., 60 and 20-qt. shots, Cypress 1,482-1,523 ft., Paint Creek 1,557-72 ft.
Carter 13 E. McCormick ..... SW SW NE 18-7n-3e
Punped 240 bbl., 60 and 20-qt. shots, Cypress 1,456-1,527 ft.
Forest 1-A Buff ..... SE NW NW 31-7n-3e
Pumped 10 bbl. oil and 20 bbl. water, 10-qt. shot, Cypress 1,582-1,602 ft.
Texas 7 Philbrook ..... SE NW SE 31-7n-3e
Pumped 56 bbl., natural, Cypress 1,581-87 ft.
Texas 4 N. Wantland ..... SE NW SE 31-7n-3e
Pumped 63 bbl., 3-qt. shot, Cypress 1,578-89 ft., P.B. to 1,587 ft.
Texas 10 L. Wooten ..... NE SW SE 31-7n-3e
Pumped 119 bbl., 10-qt. shot, Cypress 1,576-88 ft.
Texas 11 L. Wooten ..... NE SW SE 31-7n-3e
Pumped 133 bbl., 5-qt. shot, Cypress 1,571-87 ft.
Texas 14 L. Wooten ..... SW SE SE 31-7n-3e
Pumped 130 bbl., 10-qt. shot, Cypress 1,571-89 ft.
Texas 10 A. Yakel ..... NW NW SE 6-6n-3e
Pumped 168 bbl., 15-qt. shot, Cypress 1,541 ft., T.D. 1,588 ft.

Fayette County—St. James Field

Texas 14 C. Wright ..... NE SE NW 31-6n-3e
Pumped 154 bbl., Cypress 1,615-23 ft., T.D. 1,624 ft.
Zephyr 8 Smith ..... NE SE SW 31-6n-3e
Pumped 55 bbl., 10-qt. shot, Cypress 1,608-24 ft.
Zephyr 2 Stevens ..... SW SW SE 31-6n-3e
Pumped 15 bbl. oil and 5 bbl. water, Cypress 1,628-46 ft., P.B. to 1,635 ft.
Zephyr 3 Stevens ..... SW NW SE 31-6n-3e
Pumped 150 bbl. oil and 6 bbl. water, 10-qt. shot, Cypress 1,605-21 ft.
Zephyr 4 Stevens ..... NW NW SW 31-6n-3e
Pumped 150 bbl. oil and 6 bbl. water, 10-qt. shot, Cypress 1,603-14 ft., T.D. 1,617 ft.

Hamilton County

Texas 1 N. Adams ..... N½ NE NW 8-4s-7e
Dry, 21 bbl. oil and 17 bbl. water, McClosky 3,452 ft., T.D. 3,460 ft., drilled deeper, St. Louis 3,538 ft., T.D. 3,558 ft.
Kingwood 2 Morris ..... NE SE NE 34-5s-6e
Pumped 160 bbl., 8 per cent water, Benoist 2,962-75 ft.
F. Hinkle 1 L. & N. R. R. ..... NE SE NE 34-5s-6e
Pumped 68 bbl., Benoist 2,956-68 ft.
Ohio 5 F. R. Wilson ..... SE SW NE 6-6s-7e
Location abandoned.

Jasper County

Pure 2 Davidson ..... W½ SW SE 17-5n-10e
Flowed 1,008 bbl, McClosky 2,765-77 ft., T.D. 2,795 ft.

Jefferson County

Clare Union Min. 1 Chaney ..... NW NW SW 23-3s-4e
Dry, Glen Dean 2,437 ft., Cypress 2,698 ft., Aux Vases 2,978 ft., Ste. Genevieve 3,014 ft., T.D. 3,190 ft.

Lawrence County

Alford 2 Gutheridge ..... SW NW NW 29-3n-12w
Pumped 403 bbl., Benoist 1,948 ft., Ste. Genevieve 2,000 ft., Chattanooga 3,410 ft., Devonian 3,416 ft., T.D. 3,750 ft., P.B. to 1,950 ft.

McDonough County

W. Vette 1 McClure ..... SE NE NE 4-5n-4w
Dry, T.D. 801 ft.

Marion County

Glenwood 1 Gen. Amer. Life ..... NW SE NW 10-5n-4e
Dry, Glen Dean 1,933 ft., T.D. 1,937 ft.
H. & K. Drlg. 1-A Neilson ..... NE SW NW 20-4n-2e
Dry, Tar Springs 1,050 ft., Glen Dean 1,553 ft., Ste. Genevieve 2,030 ft., T.D. 2,130 ft.
Menhall 2 Goodwin ..... NW NW SW 8-2n-1e
Dry, St. Louis 2,854 ft., Chattanooga 2,864 ft., Devonian 2,935 ft., T.D. 2,993 ft.

Marion County—Salem Field

Texas 2 Flannagan ..... SE NW SW 30-2n-2e
Dry, Benoist 1,922 ft., Devonian 3,485 ft., porosity 3,532 ft., T.D. 3,587 ft., P.B. to 3,500 ft.
Texas 26 D. Young ..... NW NW SE 21-2n-2e
Flowed 112 bbl., 4,000 gal. acid, Devonian 3,490 ft. and 3,512-23 ft.
Magnolia 39 W. B. Young ..... SE NE SW 21-2n-2e
Pumped 701 bbl., 1,000 gal. acid, Devonian 3,508-24 ft., T.D. 3,528 ft.
Texas 8 A. N. Richards ..... W½ NW NE 7-1n-2e
Flowed 924 bbl., 5,000 gal. acid, McClosky 3,385 ft. and 3,404-18 ft., T.D. 3,455 ft.
Gibson & Jennings 6 Phillips ..... NE SW NW 7-1n-2e
Pumped 52 bbl. oil and 9 bbl. water, 3,000 gal. acid, McClosky 2,055-60 ft., T.D. 2,078 ft.
Texas 12 C. Richardson ..... SE NE SE 6-1n-2e
Pumped 203 bbl., 3,500 gal. acid, McClosky 1,918-26 ft., 1,930-35 ft., Salem 2,145 ft., T.D. 2,220 ft.
Texas 28 G. S. Johnson ..... NE NW NE 6-1n-2e
Pumped 112 bbl., 4,000 gal. acid, McClosky 1,913-16 ft. and 2,012-15 ft., Salem 2,141 ft., T.D. 2,210 ft.
Texas 27 G. S. Johnson ..... NE NE NW 6-1n-2e
Pumped 105 bbl., 3,000 gal. acid, McClosky 2,006-39 ft. and 2,065-72 ft., T.D. 2,090 ft.
Texas 26 G. S. Johnson ..... NW SW SE 6-1n-2e
Flowed 810 bbl., 3,000 gal. acid, Devonian 3,380 ft. and 3,390-3,410 ft., T.D. 3,457 ft.
Texas 24 G. S. Johnson ..... E½ SE NW 6-1n-2e
Flowed 510 bbl., 3,000 gal. acid, Devonian 3,437 ft. and 3,486-3,514 ft.
Texas 20 C. Friedrick ..... E½ SE SW 6-1n-2e
Pumped 205 bbl., 3,500 gal. acid, McClosky 1,982 ft., Salem 2,212 ft., T.D. 2,245 ft.
Texas 26 J. Cannuli ..... NE SE NE 6-1n-2e
Pumped 48 bbl., 5,000 gal. acid, McClosky 1,916-22 ft., 1,930-36 ft., Salem 2,135 ft., T.D. 2,210 ft.
Texas 18 C. Bundy ..... NE NW NE 6-1n-2e
Pumped 154 bbl., 5,000 gal. acid, McClosky 1,915-33 ft., 1,937-42 ft., 1,948-55 ft., 1,965-81 ft., Salem 2,160 ft., T.D. 2,250 ft.
Texas 17 J. O. Richards ..... NE SE NW 5-1n-2e
Pumped 182 bbl., 4,500 gal. acid, McClosky 1,883-1,910 ft., 1,923-29 ft., Salem 2,127 ft., T.D. 2,190 ft.
Texas 12 C. Reed-A ..... SE NE NW 5-1n-2e
Pumped 189 bbl., 6,500 gal. acid, McClosky 1,892-1,915 ft., 1,937-55 ft., Salem 2,120 ft., T.D. 2,200 ft.
Texas 11 C. Reed-A ..... NE NE NW 5-1n-2e
Flowed 171 bbl. in 18 hr., 6,500 gal. acid, McClosky 1,888-95 ft., Salem 2,125 ft., T.D. 2,185 ft.
Texas 78 City of Centralia ..... SE SW NE 5-1n-2e
Pumped 105 bbl., 5,000 gal. acid, McClosky 1,957-67 ft., 1,973-81 ft., 2,005-20 ft., Salem 2,174 ft., T.D. 2,205 ft.
Texas 9 M. A. Tate ..... E½ SW NE 7-1n-2e
Flowed 1,240 bbl., 5,000 gal. acid, Devonian 3,405 ft. and 3,420-35 ft., T.D. 3,470 ft.

Monroe County

Doc Rose 1 Rose ..... W½ W½ W½ 15-1s-10w
Dry, Trenton 1,181 ft., T.D. 1,206 ft.

Montgomery County

C. W. Miller 1 Falford ..... NE NW NW 6-10n-5w
Dry, sand 568-78 ft. (water), T.D. 693 ft.

Pike County

Hunt 1 Fisher ..... NE NW NE 21-5s-6w
Dry, T.D. 345 ft., P.B. to 185 ft., completed as water well.

Richland County

Pure 10-B Wachtel ..... E½ NW NW 18-4n-10e
Flowed 746 bbl., McClosky 2,944-50 ft., T.D. 2,965 ft.

Schuyler County

O. A. Reed 1 B. Applegate ..... NW SW NE 9-3n-2w
Dry, Mississippi lime 252 ft., Kinderhook 462 ft., Niagaran 686 ft., water 703 ft., Trenton 712-981 ft.

Scott County

Erie Drlg. 1 Neat ..... SE SW SE 17-13n-12w
Dry, T.D. 935 ft.

Shelby County

Turner 1 Hoagland ..... NW NW SW 14-9n-4e
Dry, T.D. 2,005 ft.

Wabash County

H. W. Snowden et al 1 W. O. Cass ..... SW SE NE 3-1n-13w
Pumped 100 bbl., 2,704-08 ft., Glen Dean 2,154 ft., T.D. 3,090 ft.
Garnier 2 Putnam ..... SE NE SW 3-1n-13w
Location abandoned.
C. Crosby 1 Higgins ..... NW NE SW 3-1n-13w
Pumped 50 bbl., 1,000 gal. acid, McClosky 2,682 ft.
Tatum et al 1 Ed Alka ..... NW SW SE 34-1s-13w
Pumped and flowed 300 bbl., McClosky 2,638-45 ft., Menard 1,793 ft., Glen Dean 2,083 ft., Cypress 2,280 ft., Ste. Genevieve 2,593 ft., T.D. 2,656 ft.
Tatum et al 1 C. Alka ..... NE SW SW 34-1s-13w
Dry, Glen Dean 2,109 ft., Cypress sand 2,366 ft. (water), Aux Vases 2,545-64 ft. (saturation), McClosky 2,665-71 ft., T.D. 2,675 ft.
W. E. Skeen 1 Chapman ..... NW SW SW 13-1s-13w
Dry, T.D. 1,050 ft.
Kingwood 1 Hocking ..... NE SE NW 20-2s-13w
Pumped 47 bbl., 15-qt. shot, Biehl 1,701 ft., Waltersburg 2,020 ft., Glen Dean 2,183 ft., Cypress 2,467 ft., Aux Vases 2,653 ft., Ste. Genevieve 2,744 ft., St. Louis 2,281 ft., T.D. 2,886 ft., P.B. to 1,714 ft.
Yingling 3 Compton ..... SW SE SW 19-2s-13w
Pumped 10 bbl., 20-qt. shot, Biehl 1,715-20 ft., T.D. 1,727 ft., P.B. to 1,722 ft.
Tide Water 2 Bucholz ..... NE SW NE 9-2s-13w
Pumped 75 bbl., 15-qt. shot, Cypress 2,399-2,410 ft.
W. W. Grey 1 fee ..... SE SW SE 14-3s-14w
Flowed 450 bbl., McClosky 2,844-55 ft., T.D. 2,860 ft.

Washington County

Mudge 1 E. Mitchell ..... SW SE NE 22-1s-1w
Dry, elev. 530 ft., Glen Dean 1,220 ft., Ste. Genevieve 1,707 ft., Devonian 3,112 ft., T.D. 3,200 ft.
Gulf 1 North Buhl ..... SW SW NE 23-1s-1w
Dry, elev. 540 ft., Glen Dean 1,225 ft., Ste. Genevieve 1,722 ft., St. Louis 1,875 ft., T.D., P.B. to 1,585 ft., tested water.
Hubbard 1 Hunleth ..... SW SW NE 30-3s-4w
Dry, Glen Dean 664 ft., Cypress 878 ft., Aux Vases 1,095 ft., Ste. Genevieve 1,124 ft., St. Louis 1,210 ft., T.D. 1,220 ft.

Williams 1 Pijut ..... SW NW SE 18-3s-1w
Dry, McClosky 1,596-1,612 ft., T.D. 1,649 ft.

Wayne County

Pure 8 J. Hubble ..... W½ SW SW 3-2n-8e
Flowed 577 bbl., 5,000 gal. acid, McClosky 3,003-22 ft., T.D. 3,090 ft.
Pure 2 J. W. Barth-A ..... NE SW NE 5-1n-8e
Flowed 320 bbl., 5,000 gal. acid, McClosky 3,020-30 ft., T.D. 3,130 ft.
Oilwell 1 Harris-Hilliard Cons. .. E½ NW NW 34-1s-7e
Pumped 18 bbl. oil and 65 bbl. water, 7,000 gal. acid, Fredonia 3,328-51 ft.
Texas 3 S. Clark ..... NE SW SE 4-2s-7e
Flowed 633 bbl., 3,000 gal. acid., McClosky 3,225-28 ft., 3,244-51 ft., 3,258-61 ft., T.D. 3,265 ft.

White County

Mercer Bros. 2 Chapman ..... SW NE NW 26-6s-8e
Flowed 450 bbl., 1,000 gal. acid, deepened from 3,114-78 ft.
Tide Water 1 Dennis ..... SW SW NE 33-4s-14w
Flowed 367 bbl., 3,500 gal. acid, McClosky 2,887-92 ft., T.D. 2,900 ft.
Pure 6 Potter ..... NW SW SW 9-4s-14w
Pumped 59 bbl., Tar Springs 2,222-38 ft., T.D. 2,708 ft.
Superior 2 Given ..... NW NE SE 33-4s-14w
Pumped 100 bbl., Cypress 2,580-94 ft., T.D. 2,597 ft.
Pure 2 Calvin-A ..... SE SE NW 9-4s-14w
Pumped 57 bbl oil and 8 bbl. water, Tar Springs 2,210-25 ft., Paint Creek 2,625-48 ft., Benoist 2,705-15 ft.
D. & H. Drlg. 1 F. M. Hon ..... NW SW SE 9-4s-14w
Pumped 180 bbl., Tar Springs 2,214-32 ft.
McIntyre 2 E. Potter ..... SE NE SE 8-4s-14w
Pumped and flowed 90 bbl., Benoist 2,689-2,704 ft.
Cherry & Kidd 2 W. W. Grey .... SE SE SE 8-4s-14w
Pumped 75 bbl., Tar Springs 2,214-30 ft.
Buell & Herndon 2 Bond ..... NE SE NE 8-4s-14w
Pumped 98 bbl., Paint Creek 2,678-86 ft., T.D. 2,698 ft.
Arrow Drlg. 1 E. Potter strip .... SE SE NE 8-4s-14w
Flowed 130 bbl., 10 and 20-qt. shots, Paint Creek 2,660-72 ft., Benoist 2,679-91 ft., T.D. 2,693 ft.
Bay 2 M. Storms ..... NE NW NE 22-6s-9e
Pumped 120 bbl., Waltersburg 2,211-51 ft.
Bay 1 M. Storms ..... SE NW NE 22-6s-9e
Flowed 83 bbl., 15-qt. shot, Waltersburg 2,219-53 ft.
Baldwin 1 Atchley roadway ..... SW NW NW 22-6s-9e
Location abandoned.
Penn et al 5 Porter ..... W½ NW NW 18-6s-9e
Location.
Cameron 2 Wilson ..... SE SW SE 15-6s-9e
Pumped 70 bbl. oil and 14 bbl. water, 20-qt. shot, Waltersburg 2,215-42 ft.
Cameron 1 Wilson ..... SE SE SW 15-6s-9e
Dry, Waltersburg 2,272-80 ft.
Eason 4 M. Storms-A ..... NW SW SW 11-6s-9e
Flowed 120 bbl., 5-qt. shot, Waltersburg 2,241-50 ft.

ILLINOIS DRILLING REPORT

Bond County

Kingwood 1 Gaffney ..... SW SE SE 30-6n-3w
(Continued on Page 96)

APPALACHIAN FIELDS

Second Chestnut Ridge Gasser Being Deepened to Oriskany

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Sept. 23.—On Chestnut Ridge in South Union Township, Fayette County, New Penn Development Co., William E. Snee et al are moving the rig from 2 Summit Hotel (Heyn) to No. 1, which will be deepened through the Oriskany sand. No. 2 has been tubed after deepening from 6,767 ft. to 6,982 ft. with gas being produced from both the chert beds in the Onondaga lime and the Oriskany sand. No. 1 has been producing only from the chert beds in the Onondaga, total depth 6,687 ft. No. 1 is 59 ft. lower on structure than No. 2, but has consistently been a better gas well. Here the Oriskany should be reached in another 58 ft.

During the past week in the lower eastern fields, 19 wells were reported of which 5 were dry, 12 gas wells and 2 oil producers with a daily initial of 85 bbl.

SOUTHWEST PENNSYLVANIA

On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas Co. is drilling out cement in 2 Piedmont Coal Co. at 5,662 ft. with some shale showing in the samples. Several attempts have been made to start a new hole at about 5,600 ft. to reach the Tully at 5,820 ft. In their No. 3, the hole is being reamed at 137 ft. before casing is run to 1,367 ft. In North Union Township Wasson et al are drilling at 4,347 ft. in 2 J. H. Sorg.

On Laurel Ridge in Stewart Township, Fayette County, New Penn Development Co., William E. Snee, and E. G. Mueller are still shut down at 8,002 ft. in the test on the Gregg L. Neel farm. The contract expired at that depth. It is reported that it will be deepened.

In Maryland, George L. Yaste et al reached 1,750 ft. in the test on the J. A. Bloch at Deep Creek Lake in Garrett County. It has passed through the Fifth sand. On the Accident dome, New Penn Development Co., William E. Snee et al 1 Humberson, Garrett County, was cemented back to sidetrack and the tools made progress in a new hole but lost action again. The hole is being recemented.

Armstrong County

Plum Creek: William McCollins 2 Add Reefer, dry, Murraysville and Hundred-Foot, T.D. 1,765 ft.

Fayette County

German Township: Greensboro Gas Co. 1 C. L. Springer, 33,000 cu. ft. gas, Fifty-foot sand, 2,377-2,446 ft., gas 2,377 ft.

Indiana County

Brush Valley Township: T. W. Phillips 1 Helvetia Coal Co., dry, Tiona sand, 3,319 ft.

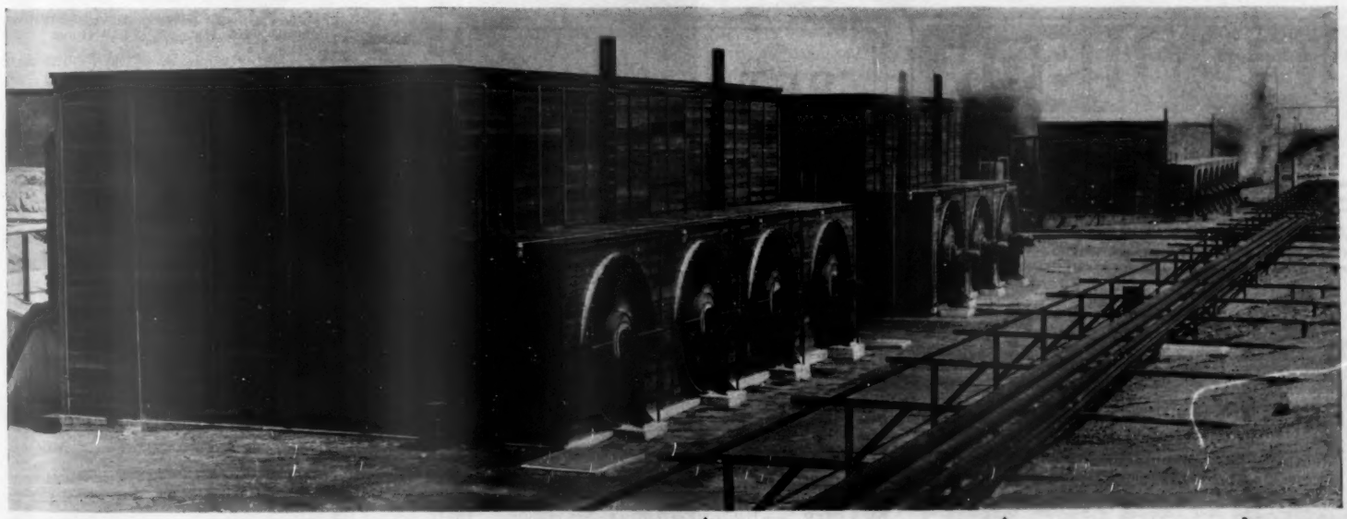
Washington County

Amwell Township: Orrill et al 1 Membs Lantz, dry, Fifth sand, T.D. 2,829 ft.

DRILLING REPORT

Armstrong County

Cowanshannock Township: Peoples 1 Mike Miketa, 1,022 ft.



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Peoples 1 Jay Kough, reran 6⅝-in. casing to 624 ft.
Equitable 1 Earhart heirs, 3,363 ft.
Huber 2 C. R. Huber, 3,025 ft.
Kiskiminitas Township: Chestnut Ridge 2 E. J. Sjirey, building rig.
Kittanning Township: Local Company 1 G. A. Scholl, 938 ft.
Equitable 1 James Shuster 3,140 ft.
Mahoning Township: John Wray et al 2 King Shaffer, 1,223 ft.
Parks Township: T. W. Phillips 1 France Klingensmith, 3,272 ft.
Plum Creek Township: Shelocta 1 Amos Boyer, 1,015 ft.
South Bend Township: Equitable 1 Margaret A. Claypool 2,390 ft.
Valley Township: Local Co. 2 W. L. Piert, 1,725 ft.
Wayne Township: Watson et al 2 W. D. McIntire, 1,475 ft.
Penn Wayne 2 Ed Clever, 225 ft.
Humphrey, Stone & McCall 1 James Bittinger, 890 ft.
Peoples 1 W. G. Beck, 3,330 ft.
Samuel Sowers 1 William Rupp, 2,650 ft.

Clarion County

Limestone Township: George Hall 2 C. Fairman, 900 ft.
Peoples 2 Mrs. W. G. Brocious, 679 ft., S.D.
Monroe Township: Owens Illinois Glass 1 J. C. Heinrick, 1,200 ft.
Piney Township: Frank Shreffler 7 Clarion County Home, 125 ft.
Porter Township: T. W. Phillips 1 Brown School, 2,580 ft.
Climax Brick Co. 1 Samuel McMaster, 500 ft., fishing tools and bailer.
Red Bank Township: John Lasher et al 1 Cora M. Truitt, 2,480 ft.
O. H. Culbertson 2 Ed Bowersox, 937 ft.
T. W. Phillips 1 Nathan Wolfgang, 7,770 ft.

Fayette County

German Township: J. H. Carnell 1 Marion Kurzankauski, 2,300 ft.
Nicholson Township: Duquesne Gas 1 Ivan Mallery, 2,114 ft.

Greene County

Center Township: J. B. Orndoff 3 Mattie I. Scott, 6⅝-in. casing to 2,117 ft.
Aleppo Township: Peoples 1 S. M. Rinehart, 70 ft.
Monongahela Township: Wahler Powers 1 Katchanovitch, 415 ft.
Henry Scott et al 1 Silas Provins, rigged up.
Morris Township: Romney Rutan et al 1 Alfred Rutan, 2,800 ft.
Jackson Township: Equitable 1 H. H. Smith, 1,830 ft.
Richhill Township: Natural Gas Co. of West Virginia 2 Harry Coffield, 150 ft.
Wasmuth & Callahan 1 Daniel Goodwin heirs, 3,100 ft.
Wayne Township: Freeland et al 3 H. D. Freeland, 3,006 ft., drilling deeper.
Whiteley Township: Lewis Petit et al 1 Lee Shields, rigging up.
Springhill Township: Kurt Brummage et al 1 Frank Gilbert, 37 0ft.
James Null et al 1 Joseph Sellers, 2,425 ft., drilling deeper.

Washington County

Amwell Township: Carnegie 1 W. C. Horn, 1,112 ft.
Hopewell Township: John Johnson et al 1 Robert Stevenson, 940 ft.
Nottingham Township: Beedle & Clark 1 Pittsburgh Coal Co., 380 ft.
Robinson Township: R. M. Duden et al 2 Herman Baier, 1,150 ft.
South Franklin Township: A. V. Lewis et al 3 B. A. Bonham, 2,120 ft.

Westmoreland County

Allegheny Township: Apollo Gas Co. 1 Anderson, 8-in. casing to 790 ft.
Hyde Park Foundry 2 Andrew Grinder, 580 ft., reaming.
Bell Township: Peoples 1 John McCreary, 10-in. casing to 480 ft.
Franklin Township: Peoples 1 Henry Swank, 2,312 ft.

Indiana County

Brush Valley Township: T. W. Phillips 1 F. M. Ramsey, 1,850 ft.
T. W. Phillips 1 Elizabeth Bennett, 3,360 ft.
South Mahoning Township: John Wray et al 2 James Lukehart, 2,345 ft.
T. W. Phillips 1 Thomas Hoover, 1,300 ft.
Washington Township: T. W. Phillips 1 C. M. Brewer, 1,176 ft.
T. W. Phillips 2 J. W. Johnson, 2,405 ft.
Peoples 1 Calvin Cribbs, 2,963 ft.
West Mahoning Township: T. W. Phillips 1 Jesse Williamson, 2,820 ft.
White Township: T. W. Phillips 1 Aber & Altismus, 3,080 ft.
T. W. Phillips 1 Martha C. Campbell, 1,350 ft.

WEST VIRGINIA

In Wood County, West Virginia, Glen Roberts et al topped the Corniferous lime in the Oriskany test on the C. W. Cook farm in Tygart district at 4,475 ft. and cemented 7-in. casing at 4,492 ft. Drilling has just resumed.

In Grant district, Harrison County, Hope Natural Gas Co.'s deep test on the C. S. Gribble farm, being drilled with a rotary, passed through a lime section at 6,776-6,830 ft. and has reached 6,842 ft. It should reach the Onondaga shortly.

In Ravenswood district, Jackson County, Columbian Carbon Co. set 10-in. casing at 982 ft. in the wildcat on the P. F. Riggs farm. Guy Boggess et al have reached 1,724 ft. in the test on the H. L. Tallman farm after cementing a cave at 1,077-1,170 ft.

Boone County

Scott district: Owens, Libby-Owens 31 Cassingham Coal Land Co., 125,000 cu. ft. gas, Berea sand.

Calhoun County

Sherman district: McCall Drilling Co. 1 Bud Kelly.

552,000 cu. ft. gas, Big lime 1,965-2,015 ft., Big Injun 20,15-2,115 ft., gas 2,075-2,080 ft., gas 2,100-2,110 ft.
Creed Yoak 3 John W. Church, 15 bbl., Big lime 2,055-2,170 ft., Big Injun 2,170-2,214 ft., oil 2,178-2,211 ft., T.D. 2,214 ft.

Kanawha County

Washington district: Owens, Libby-Owens 8 Siler Coal Land Co., 1,391,000 cu. ft. gas, Big lime, 2,240 ft.

Pleasants County

Jefferson district: A. F. Marple 19 S. White, Jefferson district, 2 bbl., Cow Run, 948 ft.
McKim district: Robert Bills et al 1 Pearlie J. Reed, 1 bbl., Maxton sand, 2,000 ft.
Washington district: W. C. Patterson 1 Calvin Conway, deepened to 1,662 ft. and plugged back to produce Maxton sand oil.

Putnam County

Curry district: Laywell Gas Co. 1 Grover C. Clark, 106,000 cu. ft. gas, Big lime 1,496-1,660 ft., Big Injun 1,700-40 ft., Berea 2,199-2,218 ft., T.D. 2,237 ft.

Ritchie County

Clay district: C. I. Collins et al 1 J. M. McDougal, 35,-000 cu. ft. gas, Injun sand, T.D. 2,109 ft.
Murphy district: Hope 3830 Elijah Smith, 225,000 cu. ft. gas, drilled deeper, shot 1,953-77 ft., Injun sand, T.D. 2,045 ft.
Hope 8511 J. F. Hartman, dry, 2,449 ft. or below Injun sand, no Berea.

Upshur County

Buckhannan district: Pittsburgh & West Virginia 7752 Eva C. Allman, 725,000 cu. ft gas., first Salt 1,045-1,164 ft., Big lime 1,876-1,966 ft., Big Injun 1,966-2,070 ft., Gordon sand 2,522-48 ft., gas 2,539-45 ft., T.D. 2,548 ft.

ORISKANY GAS FIELD

Of unusual interest is the test on the P. S. Berry farm in Poca district, Kanawha County, which is being completed by Glenn Dearth et al. In this test the Corniferous lime was at 4,989-5,114 ft., Oriskany sand 5,114-48 ft., gas 5,119 ft., gas 5,134-36 ft., total gage 600,000 cu. ft. a day, Lime break 5,148-62 ft., black oil 5,171 ft., green oil 5,177 ft., total depth 5,191 ft. The oil was estimated at about 6 bbl. a day.

On Coopers Creek in Elk district, Kanawha County, the start of this pool was an oil well in the Oriskany sand which produced up to 100 bbl. a day but which is now not an oil well. Later, after a gas field had been developed, the center of the largest wells was near Sissonville in Poca district. Now about 4¾ miles northeast of Sissonville, near the Jackson County line, oil is again found in the Oriskany sand. There has been, of course, all through this field heavy amounts of distillates with the gas. Later to the north on the Elizabeth Ward Perkins farm in Washington district, Jackson County, two deep tests found salt water in the Oriskany sand. The latest show of oil in this P. S. Berry test indicates a possible junction line of gas and oil or near shoreline.

COMPLETIONS

Kanawha County

Poca district: Godfrey L. Cabot 4 J. T. Bonham, 1,543,-000 cu. ft. gas, Corniferous lime 3,954-5,059 ft., Oriskany 5,059 ft., T.D. 5,112 ft.
Columbian Carbon 1 Donald L. Cork et al, Corniferous lime 4,755 ft., Oriskany 4,852 ft., 3,786,000 cu. ft. gas, T.D. 4,857 ft.

Jackson County

Ripley district: Godfrey L. Cabot 7 Putnam Co., 4,000,-000 cu. ft. gas, Corniferous lime 5,113-5,222 ft., Oriskany 5,222 ft., gas 5,229-34 ft., gas 5,248-52 ft., T.D. 5,270 ft.

DRILLING REPORT

Poca district: Columbian Carbon 1 George W. Spencer, Corniferous lime 4,732-4,839 ft., Oriskany 4,830 ft.
Columbian Carbon 1 Fay E. Hughart, top Corniferous 4,906 ft., 7-in. casing 4,914 ft.
Linden Drilling Co. 2 J. W. Harding, top Oriskany 4,912 ft.
Ripley district: Columbian Carbon 1 J. W. Weatherholt, Corniferous lime 5,104 ft., 7-in. casing 5,116 ft.
Godfrey L. Cabot 9 Putnam Co., Corniferous lime 5,077-5,201 ft., Oriskany 5,201 ft.
Washington district: United Fuel Gas 4873 D. C. Milam, Corniferous lime 4,930 ft.
United Carbon 6 Elizabeth W. Perkins, Corniferous lime 5,155 ft.
Godfrey L. Cabot 1 E. C. Comer, Corniferous lime 4,860 ft.
Columbian Carbon 3 Helen M. Hoge, Corniferous lime 5,175-5,276 ft., Oriskany 5,276 ft.

NEW WORK

Kanawha County

Poca district: Godfrey L. Cabot 7 J. L. McLean heirs, elev. 922 ft.
Union district: Godfrey L. Cabot 3 L. M. Lafollette, elev. 745.33 ft.

Ritchie County

Union district: Phillip Lemon 1 A. F. Mullenax, elev. 1,054 ft.

Upshur County

Meade district: Swang Run Oil & Gas Co. 1 E. L. Morrison, elev. 1,943 ft.

Wayne County

Westmoreland district: R. J. Petrie 1 A. F. Thompson Manufacturing Co., elev. 560 ft.

Wetzel County

Grant district: Hope 8527 J. W. Hatfield, elev. 1,272 ft.
Hope 8528 E. E. Glover, elev. 1,243 ft.

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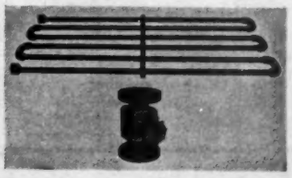

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By
R. MARNE SANFORD

WICHITA FALLS, Tex., Sept. 23.—With two of the most important Fort Worth basin discoveries yet made recorded last week in Clay and Montague counties, the exploratory activity shifted during the past week to Wise County. Most of the county was leased solid several months ago and the only lease activity at present consists of small acreage transfers. To brighten the county's prospects as an oil-producing area Cranfill & Rogers 1 McKay, a deep test in the northwest corner, drilled several zones of oil and gas between 5,800 and 5,850 ft.

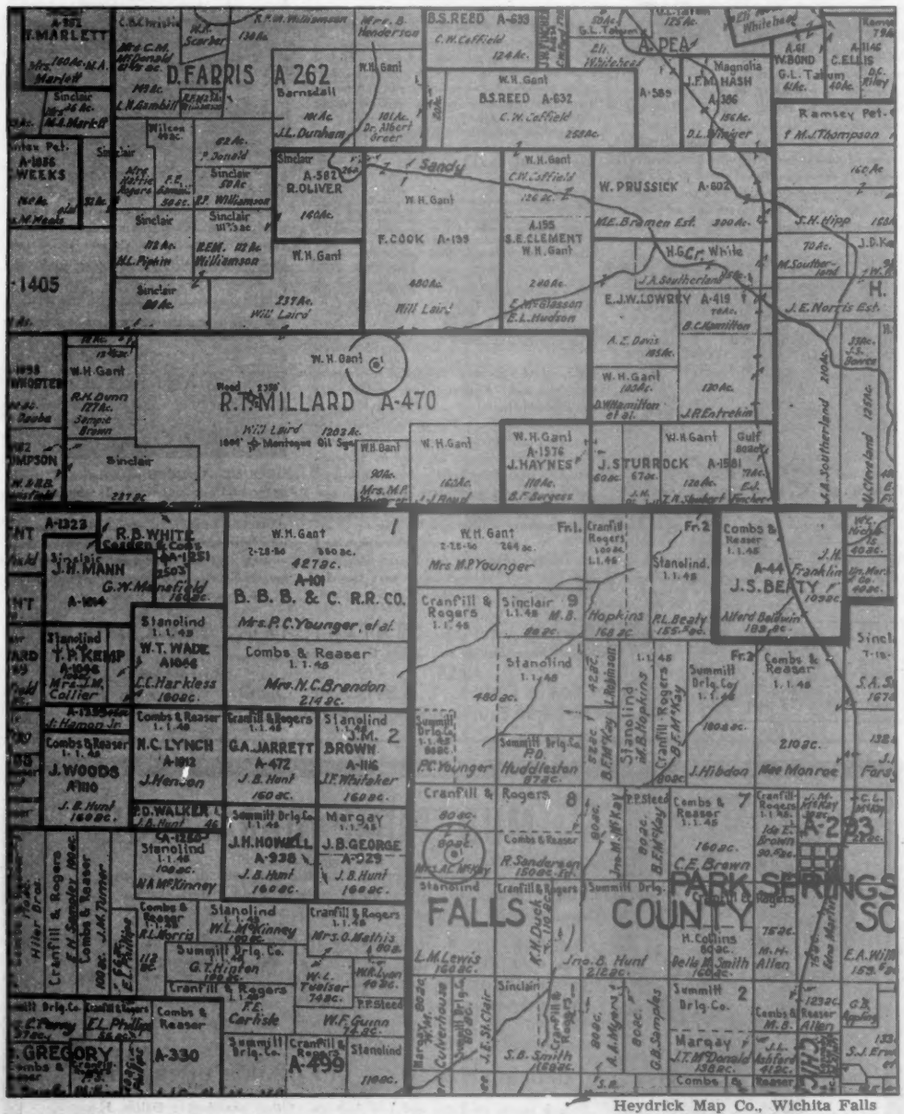
The 1 McKay, Block 8, Falls County School Lands, 2½ miles west of Park Springs, had a heavy gas flow while drilling conglomerate from 5,813-32 ft. early in the week. While bottomed at 5,850 ft. a drill-stem test was attempted but it failed. In deepening to 5,866 ft. another slight show of oil and gas was found but drill-stem test on this section also failed. As the week closed it was going ahead below 5,870 ft.

Three new wildcats are scheduled to get under way in the immediate future in Wise County. Just west of Decatur in the central part of the county, Superior Oil Co. of Tulsa and Shell Oil Co., Inc. are reported to have finished a deal for the drilling of their large block consisting of the Lee C. Smith Survey, J. H. Moore Survey, Charles Moore Survey, Samuel Isaacs Survey and Dolores Casanova Survey. The block was assembled by the two companies, together with several other independent operators, early in the Fort Worth basin play. Shell shot the entire block several weeks ago and now actual drilling is awaited. Tentative location for a deep 7,500-ft. test is in the extreme southeast corner of the Lee C. Smith Survey.

Directly west of this block and in the western part of Wise County negotiations have been reported completed for the drilling of a deep test on the Whitten block centering around the Sam Wood Survey. Tentative location for this test is in the center of the Wood Survey.

In northeastern Wise County and just southwest of the intersection of Montague and Cooke counties, R. W. Simpson of Tulsa is rumored to have arranged for a deep test of his block. Known as the Wade block, the leases therein center around the John M. Wade Survey and include some of the northern part of the J. W. Crunk Survey. Tentative location has not been made on this block.

Many other large blocks in Wise County which were taken last spring with a drilling obligation have not yet reported preliminary plans for the exploratory hole.



Heydrick Map Co., Wichita Falls

Cranfill & Rogers 1 McKay, wildcat in extreme northwestern Wise County, drilled shows of oil from 5,800-50 ft. which showed slightly on drill-stem test but was being carried deeper. It topped the Nocona lime at 5,595 ft., or 135 ft. higher than the Gant 1 Laird, immediately north and in southern Montague County. No. 1 Laird is preparing to complete as a discovery well after plugging back to the Strawn section which showed saturation several weeks ago.

Hults-Owen Strike Tanking Oil

Hults-Owens 1 Tucker, Caddo lime (Nocona lime) discovery well of last week in western Montague County, has filled 1,000 bbl. of storage tanks and is awaiting the installation of more tanks before taking official gage. The well, located in Block 2836, T.E.&L. Survey, is considered the most important of the many basin discoveries in that it establishes the fact that there is possible oil production throughout the many Bend limes in the basin as well as the conglomerate. Production is coming from 6,010 to 6,051 ft., total depth, and the oil is extremely high-gravity (authoritatively reported to be 59-gravity) oil of a rich straw color. The middle of the week two pipe-line companies made initial bids for connections with the discovery well. Gulf Pipe Line Co. has a trunk line about 2½ miles north of the strike while Stanolind Pipe Line Co. has a trunk line just to the east.

Outposts and Wildcat Locations

A new outpost has been staked to the Ross Caddo lime field of western Clay County by R. H. Dearing & Sons of Dallas. It is 1 J. M. Harfield, a 6,000-ft. rotary test located 467 ft. from the south and west lines of the W. G. Glass Survey, Abstract 164, a mile northwest of the field proper.

The Cooper-Steed field, opened in south-central Jack County several months ago, is receiving new development. Cooper & Steed, the discovery operators, have located 2 Mathis, east offset to the discovery well which was located in the J. H. Nesmith Survey, 4 miles east of the Bryson field. The third location will be an east offset to 2 Mathis.

In Wichita County E. P. Bowen has spudded 1 F. M. McKinley, William Anglin Survey, about 2 miles north of Wichita Falls. It is contracted to 4,500 ft.

Wilbarger County has a new wildcat in the Charles M. Barnes, Dallas, and R. A. Andrews 1 Clarida. It is in the NE cor. Section 97, Block 14, H.&T.C. Survey, about 5 miles south of Vernon.

NORTH TEXAS COMPLETIONS
(24-hour gages)

Archer County

Olney field: L. T. Burns 7 Blewitt, 10 bbl., 1,471-79 ft.
Hull-Silk field: L. T. Burns 1 Wilson, 950 bbl., 3,874-3,909 ft.
Dillard 10 Nichols, 1,235 bbl., 4,353-4,419 ft.
Helmerich & Payne 2 Moss, 1,300 bbl., 4,264-86 ft.
Peterson & McCarty 39 Wilson, 1,536 bbl., 4,619-50 ft.
Southern Pet. Exp. 5 Wilson, 365 bbl., 4,352-94 ft.
Southern Pet. Exp. 6 Wilson, 460 bbl., 3,872-90 ft.
Anarene field: Panhandle Refg. 10 Green, 71 bbl., 1,127-39 ft.

Baylor County

Seymour field. Hall-Jordan Oil 2 Green, 121 bbl., 3,059-62 ft.

Clay County

Thornberry field: Apache Oil 4 Henderson, 10 bbl., 1,122-36 ft.
Johnson & Kouri 2 Taylor, dry, T.D. 295 ft.
Norwood 10 Taylor, dry, T.D. 1,355 ft.
Ross field: Continental 2 Ross, 1,600 bbl., 5,387-5,443 ft.
Henderson field: Shell 1 Coburn, 1,150 bbl., 3,183-3,212 ft.

Cooke County

Walnut Bend field: Sinclair Prairie 1 Ramsey, 265 bbl., 4,926-39 ft.

Muenster field: Trumpter Oil 19 Andress, abandoned location.

Jack County

Antelope field: E. B. Evans 1 Ova Jackson, dry, T.D. 475 ft.
Bryson field: Gwynn & Overby 2 Epperson, 255 bbl., 3,098-3,195 ft.
Wildcats: Harper Pet. 1 Kinder, dry, T.D. 2,133 ft.
Harper Pet. 1 Van Hooser, abandoned location.

Montague County

Nocona field: Hawley 1 Bouldin-Crow, 25 bbl., 801-12 ft.
Bonita field: Sinclair Prairie 1 Admire, dry, T.D. 5,700 ft.

Wichita County

K.M.A. field: Fagadau 1 Barnes, 924 bbl., 4,000-25 ft.
Fagadau 1 Potts, 75 bbl., 3,983-4,160 ft.
Hammon 5 fee, 683 bbl., 3,991-4,071 ft.
Hammon, Hanlon & Buchanan 25 Fassett-Tuttle, 704 bbl., 3,889-3,972 ft.
Hammon, Hanlon & Buchanan 26 Fassett-Tuttle, 688 bbl., 3,888-3,972 ft.
Omohundro 6 Love, 648 bbl., 3,961-4,070 ft.
Southport Pet. 19 State, 352 bbl., 3,610-3,811 ft.
Burkburnett field: Fred Gates 2 Birk, 5 bbl., 1,063-88 ft.
Electra field: Morgan & Anderson 15 Mertens, dry, T.D. 995 ft.
Waggoner 6 Waggoner, 10 bbl., 1,951-61 ft.

Wilbarger County

South Vernon field: Phillips 213 Waggoner, dry, T.D. 3,119 ft.

Young County

Markley field: King 4 Bloodworth, 10 bbl., 532-52 ft.
Newcastle field: Wainwright 1 Rogers, 50 bbl., 897-98 ft.
Graham field: W. E. Prod. 4 Brubbs, 2,185 bbl., 4,894-4,920 ft.
Wildcat: Trentman Oil 1 Nall, dry, T.D. 4,589 ft.

NORTH TEXAS DRILLING REPORT

Archer County

Walter Gant and Tom Medders 1 Vogtsberger, Blk. 3, G.E.C.L. Sur., 1,350 ft. SE of discovery well, first report.
Clark 1 Goldsmith, Blk. 6, S.A.R. Sur., 5,259 ft., T.D., may run 6⅝-in. casing.
British American 1 Wilson, Sec. 2, B.B.B.&C. Sur., set 10-in. casing at 106 ft., top Ellenburger 5,414 ft., top Caddo 4,700 ft., T.D. 4,851 ft., S.D.O.
Shell 1 Coleman, Lot 3, Blk. 74, A.T.N.C.L. Sur., slight show oil 3,648-80 ft., D.S.T. 15 min., recovered 650 ft. oil and mud, drilling 4,382 ft.

Baylor County

Rogers & Lanfair 1 Howe, J. Lowe Sur., Abst. 572, S.D.O. 2,215 ft.

Clay County

W. B. Omohundro 1 Ida Wynn, Sec. 2, T.&N.O. Sur., old well drilled deeper from 6,070 ft., drilling 6,125 ft.
L. T. Burns 1 Calloway, Lot 9, Hopkins County School Lands Sur., Abst. 176, T.D. 5,356 ft., new contract depth 6,000 ft., rigging up and S.D.
Frabor-Hodges 2 Kinder, Lot 17, Blk. 2, Clark & Plumb Sur., S.D. 4,350 ft.
Horton & Wiggins 1 W. J. Howard, Blk. 31, T. J. Belcher Sur., drilled saturation 5,460-81 ft., D.S. test showed 40 ft. oil-cut mud, T.D. 5,604 ft., P.B. to 5,488 ft. and set 5½-in. casing 5,460 ft., flowing 10 to 12 bbl. an hr., re-treated with 5,000 gal., est. 250 bbl. oil per day, still testing.
Omohundro 1 Kempner, Bosque County School Land, old T.D. 4,268 ft., drilling 5,515 ft.
Roberts, Lynch & Jones 1 Edwards, Blk. 40, Madison County School Lands Sur., 6,500-ft. test, drilling 5,810 ft.
Walter Gant 1 Stine, Sec. 25, H.&T.C. Sur., 6,000-ft. test, 10-in. a t 510 ft., drilling 3,780 ft.

Denton County

Amon G. Carter 1 W. P. and A. P. Allen, S. Westbrook Sur., S.D. 4,000 ft., planning to drill deeper.
Harvey Bros. 1 Knox, R. Howard Sur., Abst. 542, old T.D. 1,357 ft., show oil 1,467-93 ft., set 6⅝-in. at 1,465 ft., drilled plug, show oil and gas, testing.

Grayson County

Texas Co. 1 Hutchinson, Samuel Stewart Sur., northeast corner of county, 7,500-ft. test, moving in material.

Hardeman County

Norris & Gilbert 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur., show oil in lime 3,810 ft., drilled saturation 3,810-70 ft., show oil in lime 3,867-3,906 ft., S.D.

Jack County

Continental 1 Robertson, M. J. Swan Sur., Abst. 1650, 4,600-ft. test, show oil 4,643-62 ft., testing gas and oil-cut mud.
R. A. Conkling 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope, 3,500-ft. test, drilling 2,492 ft.
4,600-ft. test, show oil 4,643-62 ft., testing gas and oil-cut mud.
Rathke Oil 1 Moseley, J. Harrison Sur., Abst. 259, drilling 3,072 ft.

Montague County

Walter Gant 1 Will Laird, R. T. Millard Sur., Abst. 470, 7 mi. W of Sunset, 6⅝-in. casing at 6,641 ft., T.D. 6,651 ft., preparing to perf. casing and test.
Hults-Owens 1 Tucker, NW cor. Sec. 2836, T.E.&L. Sur., slight show of oil 5,020-34 ft. and 5,210-26 ft., drilling saturation 6,010-50 ft., cemented casing 6,016 ft., drilled plug, well flowed to clean itself, now preparing to run tubing, est. 1,000 to 1,200 bbl. daily, natural.
A. R. Dillard 1 Holland, M. Montalba Sur., 10-in. set at 375 ft., drilled saturation 5,505-13 ft., S.D. 5,991 ft.
Seitz, Comegys & Seitz 1 Harris, B.B.B.&C. Sur., 10 mi. S of St. Jo, 6,000-ft. test, drilling 4,501 ft.

Wichita County

E. P. Bowen 1 F. M. McKinley, William Anglin Sur., 2 mi. N Wichita Falls, first report, contract depth 4,500 ft.

Wilbarger County

Charles Barnes and R. A. Andrews 1 Clarida, NE Sec. 97, Blk. 14, H.&T.C. Sur., first report.
Amerada 1 Parker, Sec. 36, Blk. 15, H.&T.C. Sur., drilling 3,920 ft.

Wise County

Cranfill & Rogers 1 McKay, Sec. 8, Falls C.S.L. Sur., drilling conglomerate showing oil 5,707-10 ft., cored 5,710-14 ft., test showed only mud, D.S. test 5,852-75 ft., showed 3 ft. oil and 70 ft. mud in 45 min., drilling ahead.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Sept. 23.—A new Palo Pinto lime field was in prospect for northeastern Jones County as the week closed. It is just a mile and one-half north of the limits of production in the Avoca field, however, several failures in the area indicate that it is a new strike.

The possible discovery is King Oil 1 A. E. Olson, 330 ft. out of the NE cor. NE Section 189, B.B.B.&C. Survey. Seven-inch casing has been cemented at 3,207 ft., 1 ft. in the Palo Pinto lime which showed saturation when topped at 3,201 ft. Prior to running the casing the well made several heads of oil in cleaning out. The acreage on which the pending discovery is located was taken about 3 years ago and at the time of the discovery of the Avoca field.

About 4½ miles northwest of this indicated discovery, testing continues at a prospective quarter-mile south extension for the Nowles field. The testing well is J. C. Hunter 1 Strand, SW SW Section 5, Block 5, H.&T.C. Survey. Latest gage showed 36 bbl. of oil on a 6-hour pumping test, no water showing. Production is from the Palo Pinto lime drilled with saturation from 3,419-28 ft. The normal dip of Pennsylvanian strata in the area being 40 ft. to the mile to the northwest accounts for the 200 ft. of difference in the top of the Palo Pinto saturation in this well and in the prospective discovery north of Avoca.

The second deep Mississippian lime producer was in prospect for the Stribling field of Stephens County. A south offset to the discovery well, it is Horwitz & Oldom 3 Maury, Koehler Survey. The total depth is 4,700 ft. and casing is set on bottom. Pipe was perforated up the hole 60 ft. from bottom and after an acid treatment the well will be gaged. Horwitz & Oldom 4 Maury was completed for 800 bbl. daily in early August to open the deep lime in the field, regular production being from the Caddo lime.

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Week of Routine Activity Is Marked by Few Good Wells

By

T. R. INGRAM

DENVER, Colo., Sept. 23.—The Rocky Mountain area had an uneventful week with 11 completions, of which 6 were oil wells, 3 were dry holes, and 2 were gas wells. New operations totaled 10.

Lance Creek had one completion in Continental 8 Sam Joss for 840 bbl. Texas Co. 1-F Government, in La Barge, was a flowing well and averaged 188 bbl. on a 5-day test. In Cut Bank Kately, agent, 1 Thayer, swabbed 207 bbl.; Texas 6 Curran was dry; Hannah-Porter 5 Allotted-130 swabbed 150 bbl., and Glacier Production 1 Delaney unit made 9,000,000 cu. ft. of gas. Kevin-Sunburst had four completions, including one dry hole and one gas well, the best oil well being Crumley 20 Fryberger for 216 bbl.

One wildcat in the Pagosa district, Archuleta County, Colorado, began spudding in California-Colorado 2 Macht. U-Tex Oil spudded in its 1 Hassler in South Florence. Continental released one location in Lance Creek, there were two new operations at La Barge, four in Cut Bank, and three in Kevin-Sunburst.

Extension of the Hiawatha field on the Wyoming side appears imminent in Vermillion Oil 1 Horrocks.

COLORADO

Archuleta County

California-Colorado 2 Macht is spudding for a test through the Dakota series on the Pagosa dome, 15 miles northwest of the Gramps (Price) pool and ⅛ mile northwest of 1 Macht, which in 1938 was drilled to 2,640 ft. and is shut down at that depth. Last named had a show of oil in blue shale at 1,120 ft. and several shows in the lower Mancos in stray sands 1 ft. or more thick and then tested the Dakota sands and is now standing with the tools at the bottom.

California-Colorado 2 Macht....NE SW NW 32-36n-1w
Spudding in 15-in. hole with cable tools to go to 2,640 ft. First report.

Fremont County

U-Tex Oil 1 Hassler.....NE 28-20s-69w
Rigging up. First report. South Florence field.

Garfield County

Joe T. Juhan 1 Clough.....NW SE 22-6s-94w
Drilling 125 ft., set 21-in. at 72 ft.

Huerfano County

Ira E. Miller 1 Hamilton.....SE SE NW 20-29s-67w
T.D. 1,606 ft., cleaning out. (Deep test east of La Veta).

La Plata County

Nick Spatter 1-X Bryce.....SW SW 31-33n-9w
Drilling 4,040 ft., show of gas.

Logan County

West Plains 1 Sheldon.....SE NW SW 3-10n-55w
Drilling below 2,000 ft., after shutting off water with 10¾-in. at 1,736 ft.

Moffat County

Steamboat Springs Synd. 1 Sutton NE NE SW 1-5n-96w
Drilling 2,287 ft. in pink shale and sand.
Texas 2 Wick.....Lot 9, 10-4n-91w
T.D. 4,555 ft., swabbing and testing.
Mountain Fuel Supply 6-B Wilson NW SE 14-12n-100w
Coring at 2,449 ft., sand at 2,175-85 ft. showed mud and some oil and gas, top saturated oil sand at 2,446 ft.

Ouray County

Ridgway Petroleum 1 Bennett.....NE SE 2-45n-8w
Drilling 700 ft. in Benton shale.

Rio Blanco County

Raven O. & R. 31 Government..SW NW NE 31-2n-102w
Rigging up.
Buford Oil 1 Government.....SW SW 16-1n-91w
T.D. 4,160 ft., landed 6⅝-in. at 4,132 ft., cleaning out at 4,145 ft.
Texas-California 4 Unit.....NW NW NW 2-2n-94w
Drilling 6,074 ft.

Routt County

Craig-Moore 1-X Irwin.....SW NE 33-7n-85w
Drilling in red beds at 2,410 ft.
Mid-Colorado Pet. 1 Omholt.....NE NE SE 29-4n-87w
Resumed at 3,150 ft. in Morrison. (Fish Creek).

WYOMING

Big Horn County

N. B. Ketchersid 1 Mann..SW cor. Lot 42-J, 11-55n-97w
Building rig.
Prescott & Mileski 1 Government.....1-51n-93w
Drilling 1,360 ft.

Carbon County

Producers Oil 1 Lake Valley.....CNL 14-20n-88w
T.D. 3,752 ft., changing over from cable tools to rotary.

Crook County

Vickers-Continental 1 Duncan-Lobban.....
NE NW SW 28-57n-64w
T.D. 1,550 ft., water.

Hot Springs County

J. W. Bales 1 Government...CWL NW SE 21-42n-90w
Drilling at 850 ft. after shutting off water in Muddy sand at 702-20 ft.

Lincoln County

Ella B. Newton 1 Howard.....18-25n-113w
Drilling 300 ft., contract depth 2,000 ft. South flank of La Barge field.
H. C. Harris 1 Government...SE NW NW 23-21n-117w
Drilling 3,190 ft. in lime.
Fontenelle Dev. 1 Pomroy.....NE SW 5-24n-113w
Drilling 1,450 ft.
Robert Miller Taylor 1 State.....NE cor. 36-25½-115w
Drilling 2,053 ft.

Natrona County

Drilling program of the Stanolind Oil & Gas Co., operator for the unit, in Salt Creek, in which eight wells were to be deepened from the upper sands to the Sundance, is reported postponed until the spring of 1941. One well of the series recently was completed.

Lewis Gebhart 1 Government, NW NE SE 10-39n-78w, east side of Salt Creek, a test to the Shannon sand, is suspended at 1,907 ft.

Connelly Drilling 1 State.....SW SW NW 36-36n-81w
T.D. 1,521 ft., drilling plug to test show gas.
General Petroleum 5-16-S....NW NW SW 16-35n-77w
Moving in.
Royalty Oil 1 Midert.....SW SW SW 26-35n-80w
T.D. 1,555 ft., installing steel standard rig preparatory to underreaming 8-in. at 1,131 ft. to go to Wall Creek if necessary.
General Petroleum 7-22-P....NW SW SW 22-35n-77w
T.D. 4,570 ft., rigging up pump for test of Shannon sand.

Niobrara County

Lance Creek had only one completion and one new operation. Continental 8 Sam Joss, SW NW NE 6-35n-65w, inside well, southwestern part of field, made 840 bbl. the first 24 hours flowing through open tubing at 5,211 ft., total depth, from the Leo sand at 5,181-5,211 ft. The 7-in. was cemented at 5,180 ft.

Continental 21 Tom Bell.....NW SE SE 33-36n-65w
Location. First report.

Sublette County

Texas 1-F Government, SW SW SW 27-27n-113w, La Barge field, was completed at 1,084 ft. and averaged 188 bbl. a day on a 5-day test. This is better than the average well.

L. W. Davis 1.....SE SE NE 33-27n-113w
Spudding. First report. Southwest flank, La Barge field.
North La Barge Oil 1 Good-Nothing.....
SW SW SE 16-27n-113w
Drilling 1,640 ft., old well drilling deeper from 1,000 ft. to test lower horizons.
North La Barge 1 State.....SW SW SE 16-27n-113w
Rigging up.
Texas 2-G Government.....NE NW NW 27-27n-113w
Location.
Marvel 1-1 Government.....SE NE SE 28-27n-113w
Cemented 7-in. on bottom at 963 ft.

Sweetwater County

Vermilion 1 Amelia Horrocks, north flank of the Hiawatha field, is developing considerable interest as a prospective extension of the field. It showed for 1,500,000 cu. ft. of gas in sand, estimated, at 3,254-58 ft. after shutting off water with the 8⅝-in. at 2,995 ft. It picked up another sand at 3,474-96 ft. which showed for 3,750,000 cu. ft. of gas. It is drilling ahead. It is located a mile north and a little east of Mountain Fuel Supply 1 Newberry, completed in sand at 2,347-74 ft. in 1929 for 30,000,000 cu. ft. of gas. Both wells are much lower on structure than the oil wells on the Colorado side, further indicating lenticular nature of the sands.

Farson Oil & Gas 1 Government SE NE 18-25n-108w
T.D. 1,100 ft., running 10-in. for formation shutoff.
Union Gas 1 Hummer.....NW NW NE 6-17n-103w
T.D. 2,110 ft., rigging up rotary.
Mountain Fuel Supply 1 Murphy SE SE SE 27-17n-104w
S.D. 4,156 ft.
Gus Pongratz et al 1 Clark.....NW NE 22-19n-104w
Drilling 4,300 ft., D.S. test at 4,139-4,259 ft. showed sulfur water, will go to Tensleep.
Red Desert Corp. 1 Aspden..NW SW NW 34-18n-103w
T.D. 3,790 ft. in Sundance, running 7-in. to bottom.
Vermilion Oil 2 Government...SW SW SW 7-12n-99w
Drilling 3,505 ft.

Uinta County

McCurdy-Morgan 1.....SE SW SW 32-19n-116w
Spudding 60 ft. (Cumberland district).
Elynor Oil 1.....NE SE SE 6-18n-116w
T.D. 805 ft., reaming below 700 ft. to land casing on bottom, water sand at 598-600 ft.

Washakie County

J. E. Longnecker 1.....CSL SW NE 24-47n-90w
Drilling 46 ft., 8¼-in. cemented 16 ft., show oil 44-46 ft. (Sherard structure).

Weston County

Triangle 1 Draper.....SE SE SW 24-46n-63w
Drilling 75 ft.
Riggs Oil 4.....CNL NE SE 16-46n-64w
Drilling below 150 ft.
Joseph Dornacker 1 Kinney-Collins NW NE 33-45n-61w
Drilling 200 ft.
Lanam Crowley 1.....SW SW NW 8-46n-63w
Drilling 360 ft.
Charles Stough 12.....CWL SW NW 4-46n-63w
Skidded rig, drilling 140 ft. in new hole.
Pierre La Fleishe 1 Dober.....NE NE NE 21-45n-63w
Drilling below 2,000 ft.
John Brorphy 1 Hansen.....NW NE NW 13-44n-63w
Cementing caves below 1,400 ft.

MONTANA

Big Horn County

Dr. Crosby 1 Pat. land.....SE SE NE 16-1s-13e
Resumed at 1,000 ft., cleaning out at 940 ft.
Massey Oil & Gas 1 Government SE SW SE 11-2s-31e
Drilling 1,760 ft.

Blaine County

Cherry Ridge Synd. 1 Harbolt..NW NW SW 1-35n-20e
Drilling 1,140 ft., water and show of oil at 667 ft., cased off.

Carbon County

Continental 1 Prigge.....SE SE SE 33-9s-25e
T.D. 3,562 ft., swabbed 60 bbl. in 16 hr. after acidizing again, rigging up to pump.

Fallon County

Montana-Dakota Utilities 144....SW NE NW 25-8n-59e
Drilling 1,438 ft.
Montana-Dakota 140.....SE NW NE 24-9n-59e
Drilling below 650 ft.

Garfield County

H. H. Schwartz, Jr., 1 Charles....SE NW 21-15n-30e
Cemented 10¾-in. through third Cat Creek sand at 1,150 ft., corrected depth.

Glacier County

Cut Bank had four completions, one of which was a gas well and another a dry hole, and four new operations. The best well was Kately, agent 1 Thayer, NE SE NW 15-34n-6w, in a spotted district where small wells prevail, swabbed 207 bbl. in 24 hours at 2,936 ft., total depth, from the Cut Bank sand at 2,905-33 ft. The main pay was at 2,920-33 ft. There was no Sunburst sand.

Texas 6 Curran, SW NE 8-32n-5w, South Cut Bank, was drilled to 3,089 ft. and found only thin streaks of upper Cut Bank in red, yellow, and green shale. There were no shows of oil or gas.

Hannah-Porter 5 Allotted-130, CWL NW SE 6-32n-5w, swabbed 150 bbl. the first 24 hours at 2,954 ft., total depth, from the Cut Bank at 2,920-47 ft. The main pay was 2,936-47 ft. After the 24-hour test it was shot with 40 qt. at 2,936-47 ft. and damaged the pipe 40 ft. off bottom.

Glacier Production 1 Delaney unit, C 36-34n-5w, was completed for 9,000,000 cu. ft. of gas from the Sunburst and Cut Bank sands at 2,637 ft., total depth. The 7-in. was set at 2,554 ft. and 120 ft. of 5½-in. liner was set at 2,612 ft. The Sunburst was at 2,527-87 ft., with the main pay at 2,575-87 ft., where it gaged 4,300,000 cu. ft. of gas. The Cut Bank was at 2,607-30 ft. with the main pay at 2,620-30 ft.

Santa Rita 12 Tribal.....SW SW 10-35n-6w
Spudding. First report.
Glacier Prod. 7 State.....NW NW SW 16-33n-5w
Location. First report.
Texas 4 Unit 11.....CWL NW SW 11-35n-6w
Spudding 90 ft. First report.
Texas 10 Unit 9.....SW SE 9-32n-5w
Location. First report.

Pondera County

R. C. Tarrant 1 Lang.....SE SE NW 14-31n-5w
Cemented 5½-in. at 2,750 ft.

Stillwater County

Texas 1 Unit.....SE NW 10-4s-19e
Drilling 5,324 ft.

Toole County

Kevin-Sunburst had four completions, including one

(Continued on Page 100)

Buena Vista Hills Deep Test Finds Stevens Zone Dry

By L. P. STOCKMAN

LOS ANGELES, Calif., Sept. 23.—After starting off substantially higher than last month, crude-oil production in California has leveled off and will probably wind up the month a little below the August daily average of 616,851 bbl. On September 5, state production reached 652,914 bbl., the highest point reached this year. Production for the first 19 days of September averaged 625,000 bbl. per day against 629,094 bbl. during the same time in August. This is particularly interesting because the Conservation Commission reduced the state allotment 16,000 bbl., which should have a tendency to reduce state production for the entire month of September to about 600,000 bbl. daily. It is still possible for operators to reach this goal, but it will require some heavy curtailment during the last 2 weeks of this month to bring crude-oil production down to the desired objective.

Current daily production of leading California fields for the past week follows:

	Bbls.
Wilmington	83,525
Midway-Sunset	46,450
Kettleman North Dome	46,050
Long Beach	44,050
Ventura Avenue	33,750
Huntington Beach	27,750
Coalinga	27,500
Santa Fe Springs	25,250
Dominguez	21,250

SAN JOAQUIN VALLEY

The attempt of Honolulu Oil Corp. to prove up a new deep zone of the Buena Vista Hills anticline in the Midway-Sunset field of Kern County does not look any too promising although the company's deep test, No. 25-P, on fee-owned acreage in 10-32s-24e, may yet find a productive oil sand. Top of the Stevens oil sand that has proved highly productive in the Ten Section, Canal and other adjacent fields is believed to have been topped by Honolulu at 6,870 ft. This is not definitely certain but is considered a strong possibility. If this is true, the Stevens was found substantially higher than it is encountered in other fields located out in the center of the valley. At Ten Section the Stevens is found at 7,850 ft. Honolulu is still drilling ahead in No. 25-P and if subsequent developments indicate that the Stevens has actually been passed and found barren the well will be carried down in search of the Rio Bravo and Vedder zones which should be found in the Buena Vista Hills anticline around 10,000 ft. This deep test is being drilled on a perfect anticline that has produced substantially in the Pliocene and should therefore yield commercial production in the Miocene. It remains to be seen whether No. 25-P will be a conclusive test. If dry, it may only mark the outer limits of production, as it is not located on top of the structure and it may be necessary to drill another deep test before a complete section is tested.

Cole's Levee—Tupman

Richfield Oil Corp. continues to run 15 strings of tools in the Cole's Levee and Tupman fields of Kern County and will probably continue to operate at the present rate for another several months. To date the company has completed five wells in the Cole's Levee field and 24 wells in the Tupman field, indicating the probability that about 25 additional wells are expected to be finished before the end of December. At the present time the company has 10 wells drilling ahead below 8,500 ft., which indicates that most of them should be completed within the next 30 days. In 3-31-25 along the northern limits of the Cole's Levee field, Richfield Oil Corp. is reaming No. 34-3-C at 9,890 ft. and should be ready for a production test in the near future. With the exception of one well being drilled by Ohio Oil Co. and another under way by Standard Oil Co., all drilling in this field is being done by Richfield Oil Corp. Standard Oil Co. is building derrick for 20-8 Kern County Land at the extreme west end of the Cole's Levee field at 990 ft. south and 2,075 ft. west of NE cor. 5-31s-25e.

Strand

Tide Water Associated Oil Co. has recovered the drill pipe fish that delayed drilling operations for about 2 weeks and is again drilling ahead in 25-7-E Kern County Land in the Strand field of Kern County. This well, which is located in 7-30s-26e, is being carried down into the Rio Bravo and Vedder horizons for a deep test. It is the first well to be started down as a deep test since discovery of Stevens sand production last year. If deep production is developed it will greatly increase future production of the Strand field. Western Gulf Oil Co. is coring for the pay in 34-2 Kern County Land at Paloma in Section 2-32s-26e and should hit the oil sand within another few days as the bit is down 10,355 ft. This field produces a light straw-colored oil from a gas-cap area and it was thought that No. 34-2 might find a normal crude oil due to its structural position downstructure which might be out of the gas-cap area.

SAN JOAQUIN VALLEY COMPLETIONS

Cole's Levee District

Ohio 10-F Kern County Land 11-31s-25e
Flowed 1,342 bbl., 32.4-gravity, 837,000 cu. ft. gas, 48/64-in. bean, pressures 375/1,150 lb., T.D. 9,820 ft., 7-in. water string cemented 9,353 ft., 497 ft. of 4¾-in. liner including 100-mesh perf. at 9,350-9,818 ft., landed 9,818 ft., 9,802 ft. of 2½-in. tubing, top F-2 oil sand 9,363 ft., completed in F-2 zone, Kern County.

East Coalinga Field

Section 30 Oil Co. 6 Coalinga 30-19s-15e
Pumped 10 bbl., 12-gravity, 10 per cent cut, 8¼-in. water string cemented 1,017 ft., 116 ft. of 6¼-in. liner landed 1,238 ft., perf. 1,122-1,238 ft., T.D. 1,238 ft., located in the old East Coalinga field where productive zones are badly depleted, Fresno County.

Midway-Sunset Field

Standard 46-33-D fee 33-32s-23e
Pumped 512 bbl., 22.5-gravity, T.D. 3,185 ft., elev. 770 ft., 9-in. water string cemented 3,120 ft., 93 ft. of 6⅝-in. liner landed 3,184 ft., 60-mesh perf. 3,118-84 ft., 3,120 ft. of 2½-in. tubing, top Lakeview oil sand 3,120 ft., bottomed in Lakeview oil sand, Kern County.

Round Mountain Field

Trico O. & G. Co. 3 Coffee 8-28s-29e
Pumped 240 bbl., 17.1-gravity, 6⅝-in. water string cemented 1,367 ft., 47 ft. of 5-in. liner landed 1,400 ft., perf. 1,365-1,400 ft., 1,250 ft. of 3-in. tubing, T.D. 1,400 ft., elev. 787 ft., top productive Vedder zone 1,367 ft., completed in Vedder zone, Kern County.

Southeast Coalinga Field

Standard 44-19-F fee 19-20s-16e
Flowed 2,050 bbl. daily rate on 3-hr. gage, 28.2-gravity, 1.5 per cent cut, 1,256,000 cu. ft. gas, 48/64-in. bean, pressures 375/575 lb., T.D. 7,822 ft., P.B. 7,797 ft., elev. 697 ft., 8⅝-in. water string cemented 7,775 ft., 64 ft. of 6⅝-in. liner landed 7,797 ft., perf. 7,775-97 ft., 7,769 ft. of combination 2 and 2½-in. tubing, top Greyenhagen 6,400 ft., top glauconitic 7,679 ft., top productive Gatchell oil sand 7,776 ft., base Gatchell 7,818 ft., but lower part wet necessitating plug back, Fresno County.

Tupman Field

Richfield 16-28-A Kern County Land 28-30s-25e
Flowed 1,627 bbl., 33.5-gravity, 10 per cent cut, 1,800,000 cu. ft. gas, two 1½-in. beans, pressures 250/400 lb., T.D. 9,175 ft., 8⅝-in. water string cemented 8,570 ft., 666 ft. of 5½-in. liner including perf. 8,592-8,679 ft., landed 9,170 ft., 9,159 ft. of 2½-in. tubing, completed in equivalent of Stevens oil sand, Kern County.

SAN JOAQUIN VALLEY DRILLING REPORT

Cantua District

Texas 1 Everding 24-17s-15e
T.D. 7,898 ft., drilling in Temblor sand and shale, top upper Variegated 6,215 ft., well is running about 150 ft. lower structurally than 1 Southern Pacific in 23-17s-15e, which Texas drilled to 10,116 ft. and plugged back to 9,356 ft. Texas 1 Southern Pacific showed potential of 15 bbl. daily cutting 95 per cent water. Productive interval is Domengine sand of Eocene age. Fresno County.

Northeast Coalinga District

Associated 1 U.S.I. 6-19s-16e
Drilling 8,460 ft., Kreyenhagen brown shale, top Kreyenhagen 7,596 ft. Objective is equivalent of Gatchell sand of Eocene sand. Kreyenhagen considerably thicker than expected. Fresno County.

Kreyenhagen District

Continental 1 Kreyenhagen 4-22s-16e
Drilling 9,435 ft., hard brown Kreyenhagen shale, top Kreyenhagen 8,333 ft. May be in Eocene at present depth but exact correlation impossible. Top of Eocene was expected around 9,200 ft. but Kreyenhagen interval thicker than expected. At top of Kreyenhagen well was 1,500 ft. lower structurally than 1 Mantes of Superior Oil Co. in 6-22s-16e. Fresno County.

Blackwells Corners District

Seaboard 66-17 Beer 17-26s-19e
Drilling 7,040 ft., hard gray shale, top present shale body 6,718 ft., below Point of Rocks sand of Eocene age, cored 17 ft. of tight sand showing light cuts at 6,300 ft., permeability negligible, core at 6,400 ft. was gray Point of Rocks sand, top Temblor (Miocene) 470 ft., base of Kreyenhagen 4,125 ft., Kern County.

Buena Vista Hills District

Honolulu 25-P fee 10-32s-24e
Drilling 7,880 ft., shale with streaks of fine tight gray sand, top Bentonite 6,565 ft., top Stevens believed at 6,870 ft., located on flank of Buena Vista anticline in Midway-Sunset field, Kern County.

Rio Vista District

Standard 1 State 31-4n-3e
Completed as gas well but no gage made, T.D. 4,650 ft., top Emigh gas zone 4,448 ft., 6⅝-in. water string cemented with 600 sacks cement 4,280 ft., 410 ft. of 4¾-in. liner including 366 ft. of 60-mesh perf. landed 4,645 ft., 4,627 ft. of 1½-in. tubing, shut in as soon as completed. This well bottomed beneath Sacramento River and State of California through its Public Lands Commission reserves 52 per cent royalty. Sacramento County.

Standard 1 McCormick 2-3n-2e
Location, rig material will be on ground shortly, Solano County.

Rumsey Hills District

Standard 1 Typetts 9-12n-3w
Location. Several wildcats have been drilled on this structure in past years and all showed gas. This structure formerly known as Nigger Heaven dome. Yolo County.

LOS ANGELES BASIN

R. E. Havenstrite killed 1 Lincoln, his discovery well on the Del Valle anticline in the Newhall-Castaic district in western Los Angeles County, and will attempt to rectify an unsatisfactory condition due to an excessively high gas-oil ratio. The well showed a gas-oil ratio of 20,000 to 1 at one time during the course of the flow test and it was vitally necessary to undertake corrective work both from an operating standpoint and also because of the possibility that the Department of Natural Resources might step in and force compliance with the California gas-conservation law.

No. 1 Sentous of R. R. Bush Oil Co., the deep-zone discovery well in the Inglewood field of Los Angeles Basin, was producing 450 bbl. of 32.1-gravity oil cutting 4.5 per cent late this week and for the present will be allowed to flow at this rate. If production shows any substantial reduction the company will go back into the hole for a cleanout job as it is thought that the hole may have been clogged up with mud. Standard 3-1 Los Angeles Investment, an offset to 1 Sentous, is on the way down. In the northwest end of the Inglewood structure, Federal Oil Co. has resumed drilling in 1 Smith and with the bit rotating ahead at 7,460 ft. still has another 1,400 ft. to go before reaching a depth comparable with that of 1 Sentous. The company should know within 1,000 ft., however, whether the well is on or off structure.

Athens

Southern California Petroleum Corp. should know what to expect in 12-1-A in the Athens field of Los Angeles Basin within another week as the bit is just above the O'Dea zone at 7,880 ft. This well should find production but its principal interest should be how much deeper it finds the zone that has proved productive in 1 Athens of Thorley Oil Co. Inca Oil Co.'s deep-zone well in this area sanded up several days and is being cleaned out. This well showed only small production upon completion. Drilling restrictions are holding back drilling operations in the Athens field and it may be another several weeks before any additional wells are started. Existing drilling restrictions not only prohibit drilling until changed but also restrict and limit the amount of crude oil permitted to be kept on hand and the size and number of tanks. In the Rosecrans field which is located immediately south of Athens, Universal Consolidated Oil Co. is rigging up 14 Trust to resume drilling. This well has produced from 7,845 ft., but will be deepened in an effort to stimulate production.

LOS ANGELES BASIN COMPLETIONS

Huntington Beach Field

Southwest Expl. 31 State 4-6s-11w
Pumped 475 bbl., 24.7-gravity, 2 per cent cut, T.D. 4,551 ft., elev. 46 ft., 8⅝-in. water string cemented 3,860 ft., 713 ft. of 6⅝-in. liner including perf. 3,859-4,551 ft., 4,221 ft. of 2½-in. tubing. Hole deviated out

into tideland area beneath Pacific Ocean by directional drilling. Orange County.

Montebello Field

Kern 41 Monterey 2-2s-12w
Flowed 396 bbl., 35.5-gravity, 9 per cent cut, 820,000 cu. ft. gas, 12/64-in. bean, pressures 360/1,060 lb., T.D. 7,880 ft., elev. 329 ft., 7-in. water string cemented 7,613 ft., 255 ft. of 5-in. liner perforated 7,605-7,850 ft. When landed liner was gun-perforated at 7,470-7,593 ft. 7,825 ft. of 2½-in. tubing. Completed in La Merced zone including 8-1 gas zone. Los Angeles County.

Standard 6 Braun 3-2s-12w
Recompleted flowing 240 bbl., 35.1-gravity, 2 per cent cut, 1,200,000 cu. ft. gas, T.D. 7,780 ft., elev. 279 ft., 20/64-in. bean, pressures 380/650 lb., originally completed at 7,650 ft., deepened through 5-in. liner from 7,650 ft. to 7,780 ft., 2⅛-in. tubing including 173 ft. perf. hung at 7,646 ft., lower part of hole open. Completed in La Merced zone including 8-1 gas zone. Los Angeles County.

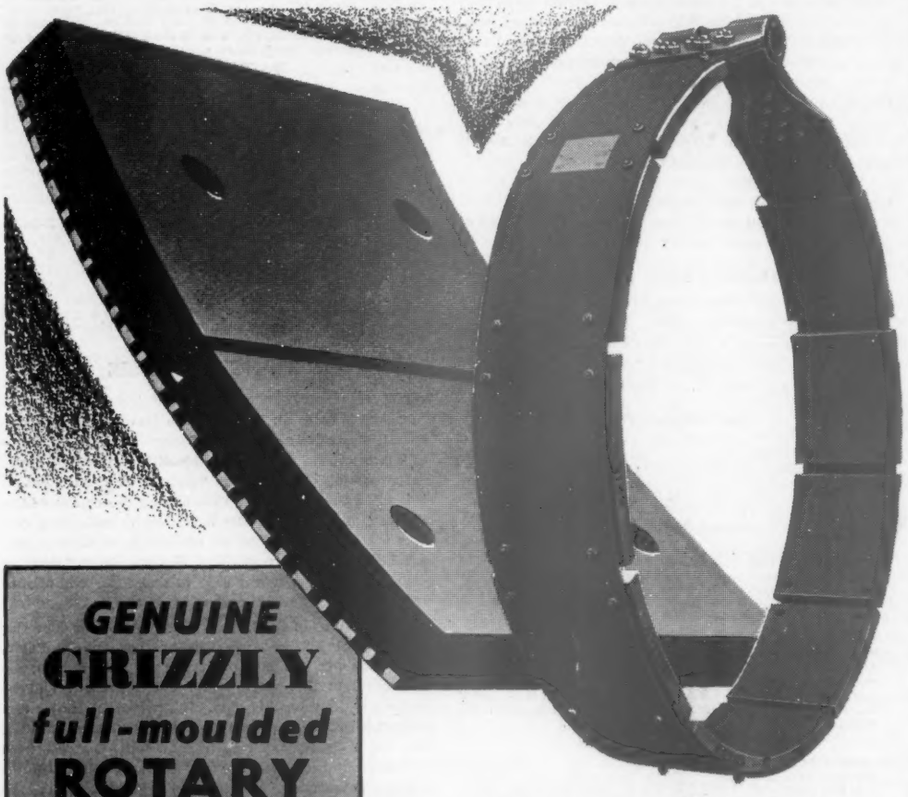
Seal Beach Field

Associated 5 Bryant 11-5s-12w
Recompleted flowing 545 bbl., 22.1-gravity, 5 per cent cut. Originally completed at 5,473 ft. in 1929. Now producing from plugged depth 4,390 ft. 6⅝-in. casing which was cemented has been gun-perforated 4,366-90 ft. Orange County.

Wilmington Field

Union Pacific R. R. 148 fee 3-5s-13w
Flowed 695 bbl., 25.4-gravity, 2.4 per cent cut, T.D. 3,837, 24/64-in. bean, pressures 560/450 lb., 1,323 ft. of 7-in. liner including 271 ft. of 4¾-in. on bottom, cemented through perf. 3,208 ft. and 3,773 ft., perf. 3,215-33 ft., 3,363-3,426 ft., 3,441-3,555 ft. and 3,775-3,827 ft., 2½-in. tubing with packer 3,599 ft., completed in Terminal zone, Los Angeles County.

M.A.K. Pet., 3 Harbor 35-4s-13w
Flowed 80 bbl., 14.2-gravity, clean, T.D. 3,452 ft., elev. 70 ft., 40/64-in. mean, pressures 50/50 lb., located in town-lot section of field and completed in Ranger zone, 8⅝-in. water string cemented 3,138 ft., 335 ft. of gravel-packed 5¾-in. liner landed 3,452 ft. and perf. 3,137-3,452 ft., 3,440 ft. of 2½-in. tubing with packer at 3,100 ft., Los Angeles County.



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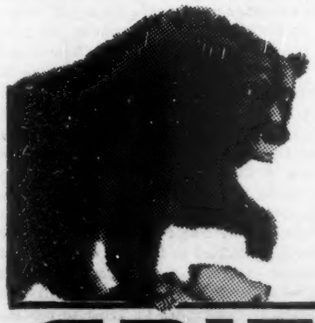

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LOS ANGELES BASIN DRILLING REPORT

Castaic Field

Havenstrite, R. E., 1 Lincoln 16-4n-17w
This well, which proved up new oil and gas field last week at Castaic on the Del Valle anticline, has been killed for remedial work to reduce high gas-oil ratio. Liner consists of 342 ft. of 5-in. which contains 227 ft. of 100-mesh perforations landed on bottom at 6,954 ft. Plans call for removal of this liner and the landing of blank 5-in. liner to be gun-perforated. Initial production was 755 bbl. of clean 46.8-gravity oil and 9,500,000 cu. ft. of gas. Gas production at times reached 15,000,000 cu. ft. per day and oil production dropped to 350 bbl. daily. Los Angeles County.

Dominguez-Gardena District

Wood-Mellon 1 Wood 31-3s-13w
T.D. 7,795 ft., P.B. 2,400 ft., redrilled to 4,890 ft., fault zones logged at 3,976 ft. and 4,100 ft. Set whipstock in each case and whipstocked up dip. Hole is now on south side of fault and shows displacement of 70 ft. up. Los Angeles County.

Inglewood District

Federal 1 Smith 7-2s-14w
Drilling 7,455 ft., sand and shale, extreme NW of Inglewood structure has been standing idle for several months. Completion of 1 Sentous of R. R. Bush Oil Co. at 8,760 ft. is responsible for resumption of work on this well. Los Angeles County.

Standard 3-1 L.A.I. 17-2s-14w
Drilling 980 ft., S offset to 1 Sentous of Bush Oil Co., Los Angeles County.

La Habra District

Security L. & W. 1 Security 9-3s-10w
Drilling 4,960 ft., Repetto sand and shale, top Repetto (lower Pliocene) 3,710 ft., no showings to date, Orange County.

Newhall District

Newhall-Potrero 1 Ferguson 26-4n-17w
S.D. 8,000 ft. pending survey. Shows 45° dips. Well is still above Miocene and therefore is substantially lower, over 2,000 ft., structurally than Bransdall wells in Newhall-Potrero field. Los Angeles County.

Pico District

Cal Pico 1 Pico 7-2s-11w
Drilling 6,770 ft., sand and shale, Miocene core at 6,312-36 ft., top of Miocene tentatively 6,300 ft., core at 4,864-78 ft. showed gray water sand, several minor showings below 2,500 ft. but has no solid oil sand, Los Angeles County.

COASTAL DISTRICT

In the Santa Maria Valley field of Santa Barbara County, Union Oil Co. has taken possession of the properties which that company purchased from Ohio Oil Co. a few weeks ago but no plans are under way for immediate drilling. This deal involved 730 acres, of which 330 acres are partially proved. Involved in the transaction was also the Moretti parcel of 400 acres, which is located west of Union's Le Roy lease. This acreage is strictly wildcat property and may or may not prove productive. Ohio Oil Co. is probably happy to be out of the Santa Maria Valley field due to the numerous troublesome conditions that have prevailed since its discovery. The crude oil produced is of a low gravity and consequently the going price is in the low bracket. Ohio Oil Co. has retained an overriding royalty in the Moretti parcel, but all future development work will be done by Union Oil Co.

In addition to the several oil fields contained in the Ventura basin there is a gas field of large potentiality. This commercial gas field is located at Goleta and was discovered a number of years ago. This gas field has been on commercial production for only a short time and for several years has been held back as a reserve. Recent developments have indicated a possibility that this field might be placed on production again. When this came to the attention of the state Lands Commission that body employed Dr. E. K. Soper to conduct a survey of the area to determine if a resumption of production would involve drainage of adjoining acreage owned by the state in addition to submerged tidelands.

COASTAL DISTRICT COMPLETIONS

Rincon Field

C. C. M. O., 37-B Hobson 16-3n-24w
Flowed 676 bbl., 30.9-gravity, 254,000 cu. ft. gas, 28/64-in. bean, T.D. 4,805 ft., 8⅝-in. cemented 4,799 ft. and gun-perforated 4,232-4,283 ft., 4,310-4,415 ft., 445 ft. of gravel-packed 4¾-in. liner 4,648 ft., perf. 4,249-4,648 ft., top Miley shale 4,690 ft., completed in Harbor zone, Ventura County.

Santa Maria

Union 5 Le Roy 14-10n-35w
Flowed 565 bbl., 16.9-gravity, 6 per cent cut, 1-in. bean, flowing through casing, T.D. 5,721 ft., P.B. 5,522 ft., 5½-in. landed 5,517 ft. and cemented through perf. 5,052 ft., perf. 5,056-5,517 ft., top Franciscan chert 5,040 ft., formation bottom of hole gray sand, Santa Barbara County.

Cole, F. E., Tognazzini 20-10n-34w
T.D. 4,378 ft., top Franciscan basement 4,328 ft., still in basement complex when drilling stopped, top Monterey 4,321 ft., only a few minor showings found in Monterey, abandoned without testing, Santa Barbara County.

Sespe Field

Merchants 8 Cochran 1-4n-20w
Pumped 220 bbl., 20.1-gravity, 7 per cent cut, T.D. 2,816 ft., 6⅝-in. casing cemented 2,492 ft., perf. 1,492-2,492 ft. Hole open below shoe. This well was being deepened to Eocene but is still in Sespe rocks of lower Miocene age. Ventura County.

Ventura Avenue Field

General Pet., 19 Barnard 21-3n-23w
Flowed 486 bbl., 27.1-gravity, 14.6 per cent cut, 500,000 cu. ft. gas, 32/64-in. bean, pressures 375/870 lb., T.D. 8,430 ft., 6⅝-in. water string cemented 7,590 ft., 893 ft. of 4¾-in. liner landed 8,422 ft., 200-mesh perf. 7,590-7,781 ft., 7,801-61 ft., 7,922-8,191 ft., 8,261-8,347 ft., 8,367-8,420 ft ., 8,417 ft. of 2½-in. tubing, base of Barnard fault 6,770 ft., Ventura County.

Shell 124 Taylor 29-3n-23w
Flowed 3,119 bbl., 30.5-gravity, 2,550,000 cu. ft. gas, pressures 340/1,450 lb., T.D. 7,577 ft., 7⅝-in. casing cemented 6,464 ft., 1,130 ft. 5½-in. liner hung at 7,575 ft., completed in upper zone of Pliocene age, Ventura County.

COASTAL DISTRICT DRILLING REPORT

Betteravia District

Union, 2 Pezzoni 33-10n-35w
Drilling 7,790 ft., Sisquoc sand and shale. No. 1 S of fault and abandoned when this determined. Santa Barbara County.

Coal Oil Point District

Bolsa Chica 191-7 Permit 25-4n-29w
Repairing pier and rigging up. This well will be drilled from a 100-ft. pier and bottomed out beneath Pacific Ocean by directional drilling. First well was drilled by Bolsa Chica Oil Co. and showed good odor in Vaqueros but nothing in Sespe. Later another operator took over the hole and whipstocked out into the ocean without success. A second attempt was made by whipstocking beneath the uplands, but failed to find production. Santa Barbara County.

South Mountain District

Cal. Sec. 1 S.M. 17-3n-20w
Drilling 4,040 ft., slight blow of gas at 3,500 ft. This well is being drilled with oil. Ventura County.

Shiells Canyon District

Field, O. C., 2 Calumet 3-3n-19w
Grading and building derrick for early work. Production expected around 3,500 ft. in Sespe if successful. Ventura County.

West Central Texas

(Continued from Page 83)

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Brown County

Cross-Cut field: Grenolds 5 Leatherman, 5 bbl., 1,141-58 ft.

Callahan County

Scranton field: Bennett & Little 2 Clinton, 2,225,000 cu. ft. gas, 522-23 ft.
Wildcat: West Bros. 1 Evans, dry at 904 ft.

Comanche County

Sipe Spring field: Shallow Oil 1 Jones, abandoned location.

Eastland County

Carbon field: D. Tomlinson 1 Poe, dry at 895 ft.

Jones County

Wildcat: Erin Pet. 1 Caton, dry at 3,304 ft., second completion.
Sayles field: Condor Pet. 31 Sayles, 138 bbl., 1,916-34 ft.
Noodle Creek field: Humble 8 Irwin, 211 bbl., 2,376-82 ft.

Palo Pinto County

Strawn field: Palo Pinto Oil & Gas 5 Mt. M. Coal, 1,185,000 cu. ft. gas, 2,972-76 ft.

Parker County

Wildcat: Carter 1 Yeager, C. H. Atkinson Sur., dry at 765 ft.

Shackelford County

Albany field: A. P. Schrade 2 fee, dry at 775 ft.
Wildcat: J. B. Baker 1 Nail ranch, Sec. 47, E.T. Sur., dry at 1,144 ft.
Jackson field: Ungren & Frazier 4 Jackson, dry at 1,365 ft.
Cook field: Roeser-Pendleton 3-A-116 Cook, 28 bbl. oil and 3 bbl. water, 1,589-93 ft.

Stephens County

Stribling field. Horwitz & Oldom 3 Dance, 375 bbl., 3,551-3,633 ft.

Taylor County

Bowles field: Eagle 1 Bowles, dry at 1,955 ft.

WEST CENTRAL TEXAS DRILLING REPORT

Callahan County

Merry Bros. & Perini 1 Yost, NW NW Sec. 18, Blk. 8, S.P. Sur., 3,200-ft. test, top Palo Pinto lime 3,128 ft., T.D. 3,220 ft., preparing to abandon as dry.
N. D. Gallagher 1 E. Grisson, SE part Sec. 2, Blk. 8, S.P. Sur., top lime 1,695 ft., fishing, underreaming lugs at 1,700 ft., T.D.

Coleman County

Stuard 1 Minear, E. V. Otaw Sur. 244, location.

Comanche County

C. D. Lane 1 H. W. Strout, 3,080 ft. from N, 2,200 ft. from E lines of E. D. Corbett Sur., Abst. 154, 6⅝-in. casing 2,900 ft., drilling 2,985 ft.
Lone Star 1 Watkins, Sec. 30, Blk. 3, B.B.B.&C. Sur., 3,000-ft. test, drilling 924 ft.

Eastland County

Dobbs Oil 1 Poe, Sec. 37, Blk. 3, H.&T.C. Sur., water sand 1,581-97 ft., set 6⅝-in. casing 1,587 ft., drilling 2,110 ft.

Fisher County

F. A. Stephenson 1 Maberry, SE SW Sec. 56, Blk. 1, H.T.&B. Sur., 3,400-ft. test, cored 3,285-3,302 ft., recovered sand showing oil, S.D. 3,302 ft., not tested.
General Crude Oil 12 Flanigan, center of old Royston field, Ordovician test, 18⅝-in. casing 80 ft., drilling 600 ft.

Hamilton County

A. J. Caldwell 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur., S.D. 3,010 ft.
C. J. Meyers 1 Oats, 420 ft. from S and 1,035 ft. from E lines F. Hughes Sur., 4,000-ft. test, first report.

Hood County

Aztec Oil 1 Gallagher, 500 ft. from S and 1,326 ft. from E lines of Robert Alway Sur., 3,000-ft. test, first report.

Jones County

T. D. Humphrey 1 Leslie & Lipman, 2,705 ft. from N and 4,320 ft. from E lines of Sec. 18, Blk. 15, T.&P. Sur., 2,900-ft. test, first report.
Charter Oil 1 Nobles, B. Trevino Sur., show oil in lime 2,151-60 and 2,225-40 ft., S.D., preparing to abandon.
J. C. Hunter 1 Strand, SW NE Sec. 5, Blk. 5, H.&T.C. Sur., drilled saturation 3,426-28 ft., top Palo Pinto lime 3,418 ft., running 6⅝-in. casing for completion.
Best 1 A. A. McDuff, 5,200 ft. S, 1,100 ft. E lines of J. J. Hughes Sur., set 6⅝-in. casing at 2,040 ft., S.D.O. 2,393 ft.

Parker County

Brown & Gardner Bros. 1 Gilbert, T.&P. Sur., Abst. 1958, casing set 3,905 ft., est. 500,000 cu. ft. gas and spray oil, slight show oil 4,405-15 ft., T.D. 4,500 ft., fishing tools.
C. Leidecker and William Holland 1 J. A. Boyd, NE NE of S 100 acres of A. J. Edwards Sur., 4,500-ft. test, S.D. 2,410 ft.

San Saba County

Three Widows Oil 1 Ballard, NW cor. S½ Sec. 80, H. Behrenroth Sur. 506, 2,000-ft. test, S.D. for 10-in. at 450 ft.

Shackelford County

Tai Vez Oil 1 Dyer, Sec. 83, Blk. 12, T.&P. Sur., drilling 940 ft.
Carson 1 Elliott, Sec. 49, B.A.L. Sur., resumed drilling after being S.D. at 1,685 ft., Caddo lime test to 3,620 ft., 10-in. casing at 1,685 ft., set 8¼-in. 2,170 ft.

Stephens County

Gourley & Fagg 1 Rogers, Sec. 28, Blk. 5, T.&P. Sur., drilled saturation 3,863-80 and 4,010-26 ft., cleaning out, top Ellenburger 4,318 ft., drilling 4,320 ft.

Tarrant County

Hickey 1 Baltzelle, NE cor. William Scott Sur., T.D. 930 ft., drill pipe froze.

Taylor County

Ce-beth Oil 1 City of Abilene, south shore of Lake Abilene on city property, 4,000-ft. test, corrected report, drill pipe stuck, T.D. 1,940 ft., S.D.

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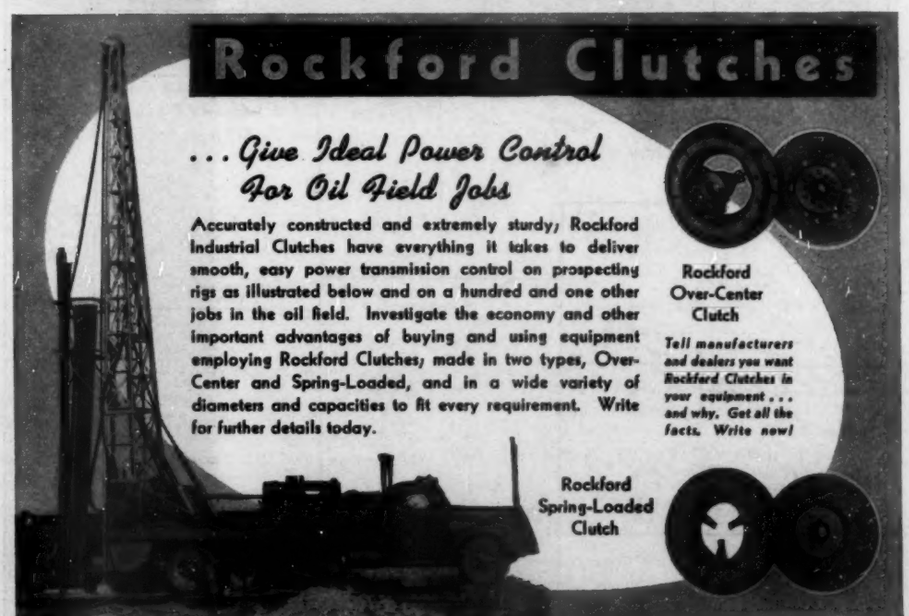

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By

F. L. SINGLETON

Testing Two Pool Openers on Frio-Vicksburg Trend

CORPUS CHRISTI, Tex., Sept. 23.—The Frio-Vicksburg trend continued to hold the attention of Southwest Texas operators as preparations were being made to test a possible pool opener in Starr County, and another wildcat in Jim Wells County logged favorable showings.

Sun 1 Saenz, a wildcat about 2 miles northeast of the North Rincon field in northeastern Starr County, was drilled to a total depth of 5,590 ft. and 5½-in. casing was cemented at 5,552 ft., preparatory to testing a series of sands in the Frio and Vicksburg formation where previous drill-stem tests showed favorable results. Sand showing oil was cored during the week at 5,493-5,503 ft., and a 13-minute drill-stem test recovered 335 ft. of oil and mud, and 60 ft. of brackish water. Gravity of the oil tested 48.7. The sand section was cored to 5,511 ft. and sand with a brackish taste was cored at intervals from 5,511-90 ft. Other showings were cored at 5,272-75 ft., 5,312-15 ft., and at 5,472-80 ft. The well is on strike with the Rincon, Kelsey and Sun fields in Starr and Brooks counties, which have proven to be among the outstanding fields in the district.

Wade City Field

H. R. Smith 1 Schumacher, which opened a new producing area 1½ miles southeast of the Wade City field, Jim Wells County, flowed 88 bbl. of oil per day through ⅛-in. choke. Tubing pressure was 420 lb., and casing pressure 850 lb. A shakeout test showed 3 to 5 per cent salt water. The well was drilled to a total depth of 5,002 ft., and production is through perforated casing at 4,818-18½ ft. This is the same sand section that produces at Wade City although the two areas may be separated from each other by a faulted condition.

On the extreme west side of the Wade City field, Anderson-Prichard Oil Corp. is preparing to retest 5 A. G. Mueller after the well flowed 213 bbl. of fluid per day of which 5 per cent was salt water. The well was gaged through a ¼-in. choke and tubing pressure was 550 lb. and shut-in casing pressure 720 lb. This is a new producing sand for the field which is thought to be due from a faulted condition, although the regular pay was cored at 4,794-4,804 ft., where a drill-stem test recovered pipe-line oil. Whether or not the deeper pay will extend over the west portion of th field will be determined by additional development.

Production in the Gallagher field, Jim Wells County, was extended about 1,200 ft. northeast as M. M. Miller & Sons 4 Gallagher flowed 167 bbl. oil per day through a 5/32-in. choke. Tubing pressure was 1,050 lb. and casing pressure 1,725 lb. The discovery pay was topped at 5,221 ft., and cored to a total depth of 5,235 ft.

Henshaw Brothers 1 Grossman, 3 miles southeast of the Orange Grove townsite, is coring in shale below 4,199 ft. following a 15-minute drill-stem test at 5,114-37 ft. which tested 50 lb. working pressure and several hundred feet of oily drilling mud. The well is expected to be drilled to a depth of 6,000 ft. Location is in the Casa Blanca grant.

Washburn Discovery Completed

H. R. Cullen 1 Washburn, the discovery well of the Washburn field, La Salle County, has been officially completed for an initial production of 113 bbl. of fluid per day, 87 per cent of which was oil and 13 per cent salt water. The well was gaged on a ⅝-in. choke. Tubing pressure was 50 lb. and shut-in casing pressure 650 lb. The well may be at some later date plugged back and tested in some of the shallower sands. The daily allowable of the well is expected to be set at 100 bbl. The well is producing from the Wilcox sand and the completion opens the first production in the county.

Another Wilcox test which is attracting attention is E. M. Jones 1-B West, 2½ miles southwest of the town of George West in Live Oak County. The hole is bottomed at 8,387 ft. with the drill stem cemented on bottom, and a production test is expected to be made during the week. The well tried to blow out the previous week when sand with an oil and gas odor was cored at 8,132-48 ft.

In the Thomaston field, De Witt County, Atlantic Refining Co. was cementing casing in 1 W. E. Conwell, about 1 mile northeast of the discovery well. Casing was cemented on bottom at 9,932 ft. Very little information has been released by the company although it is reported that a production test will be made below 9,800 ft. where a sand and sandy shale section with some showings were logged. Should the well produce from the 9,800-ft. horizon it will open a deeper sand for the field, several hundred feet deeper than the discovery well which was completed at 7,855-85 ft.

Shield Field

The Shield field, Nueces County, received its second producer as Shield Oil Co. 1 W. L. Lewis flowed 75 bbl. of pipe-line oil in 12 hours through ¼-in. choke with 700 lb. working pressure on the tubing and 900 lb. on the casing. Production is from the discovery pay at 6,614-18 ft. The same company is rigging up for 1 Allen estate, a north outpost, while Stanolind Oil & Gas Co. is nearing the pay in 1 Ocker.

Wellington Oil Co. 1 Howze, midway between the Minnie Bock and North Clara Driscoll fields, Nueces County, was completed for an initial production of 61 bbl. oil through a 5/32-in. choke. Production is through perforated casing at 3,819-22 ft.

Wildcat Operations

In Willacy County, Pan American 1 Garcia, a wildcat 14 miles east of Lyford in the San Juan de Carrecitas grant, Share 13, is preparing to core at a total depth of 7,822 ft. after an electrical survey was made. Sidewall cores were cut at intervals from 7,276-7,678 ft., and sand with a slight odor of oil was reported at 7,634 ft. Additional showings were reported logged at 7,762-70 ft.

Texas 1 Armstrong, 1 mile south of the Gutierrez field, Jim Hogg County, is reported to be flowing an unestimated amount of distillate and gas while testing through perforated casing at 3,618-56 ft. Location is in the A. Villa Survey 90.

In the Balcones fault-line district, and located in the Tangleford area, Lee County, Fred Pederson 1 Brown was swabbed down to 6,600 ft. where it showed salt water, and the operator is attempting to squeeze off perforations at 8,722-37 ft. and at 8,661-94 ft. to retest. A short string of casing was cemented to test showings in the Travis Peak formation.

The county gained a new wildcat location as Humble Oil & Refining Co. staked location for No. 1 Charles Melde in the L. P. Rucker Survey, about 4 miles west of Fields Station. The company controls a large block in this area, and the well is scheduled to be drilled to a depth of 6,000 ft.

SOUTHWEST TEXAS COMPLETIONS
CORPUS CHRISTI DISTRICT

Jim Wells County

Orange Grove field: H. H. Howell et al 4 Schreade, 275 bbl., ½-in. choke, perf. casing 5,095-5,108 ft., T.D. 5,152 ft.

Wade City field: Commercial Production Co. 1 Nollkamper, 124 bbl., ⅛-in. choke, perf. casing 4,790-94 ft., T.D. 4,907 ft.

Nueces County

South Clara Driscoll field: Texas Conservative Oil Co. 1-B Flynn, 110 bbl., 9/64-in. choke, perf. casing 5,407-13 ft., T.D. 5,430 ft.

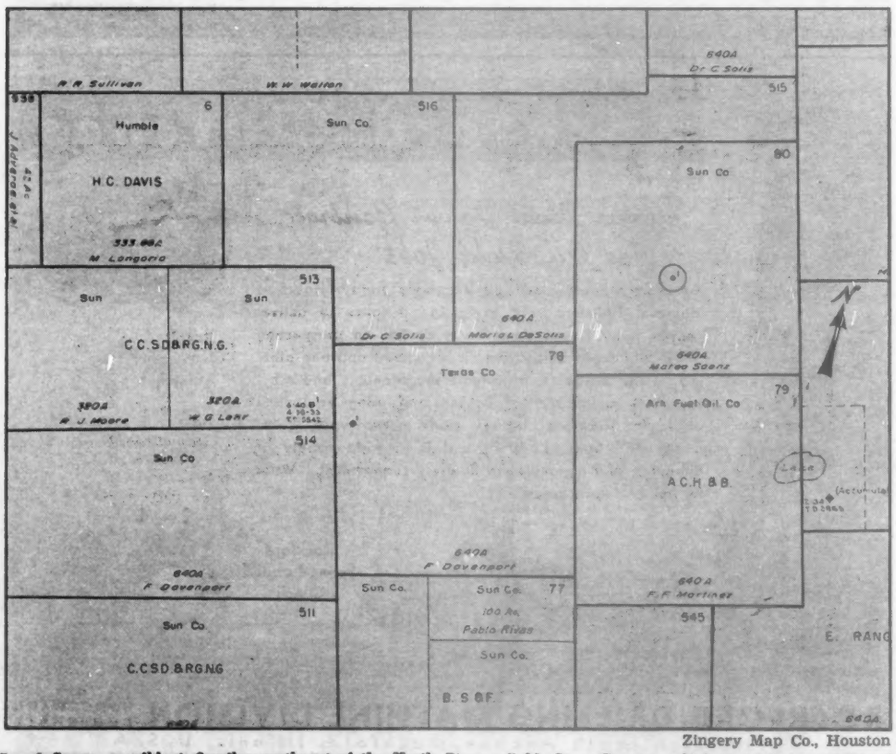
Stratton field: S. E. W. Oil Co. 1 Union Central Life Ins. Co., 94 bbl., ⅛-in. choke, perf. casing 6,680-6,702 ft., T.D. 7,168 ft.

East White Point field: Sinclair Prairie 10-707 State, 129 bbl., ⅛-in. choke, perf. casing 5,619-30 ft., T.D. 5,635 ft.

San Patricio County

Midway field: Stanolind 1 Ivey, 74 bbl. oil plus 10 per cent salt water, 3/32-in. choke, perf. casing 5,331-35 ft., T.D. 6,505 ft.

(Continued on Page 100)



Zingery Map Co., Houston

Sun 1 Saenz, a wildcat, 2 miles northeast of the North Rincon field, Starr County, which is testing a series of sands in the Frio-Vicksburg formation

By
DAL DALRYMPLE

Many Field Tests and Wildcats Start as Production Soars

WITH daily average production passing the 200,000-bbl. mark and nearing an all-time high for the state, Kansas had a busy week in the oil fields as operators started about 50 new tests and completed 35 wells. Oil production was uncovered in a gas area in Cowley County, a pool opener in Stafford County was completed and the Keesling pool, Rice County, was extended.

R. J. Wixson and associates opened an oil pool in the Clover gas area, Cowley County, at No. 1 Clover, C W½ E½ 17-31-7, about 3 miles west of the Brown oil pool. It was completed for 35 bbl. of 39-gravity oil daily from Mississippi lime at total dept hof 2,812 ft.

The Keesling pool was extended ½ mile northward at Colorado Petroleum, Inc., 1 Keesling, CEL NE NW 10-20-9w. It made initial swabbing potential of 43 bbl. of oil from Arbuckle pay at total depth of 3,233 ft. This opens a considerable area to development, as the pool had not been defined on the north side, nearest dry hole being more than a mile distant. The Keesling pool has 40 producing wells with total potential of 9,167 bbl. daily.

New wildcats included the first test to be started in Brown County since the Forest City basin lease boom. It is Gernon et al 1 Bruce, SE SE SE 15-3s-15e, about 20 miles southwest of the Falls City, Neb., pool.

Other outposts recently reported included: Crown Petroleum Co. 1 Lacquemont, 30-16-1w, Saline County; Warner, Herington & Midland Oil Co. 1 Stewart, 13-16-4, Dickinson County; C. L. Carlock et al 1 Karber, W½ NW NW 7-19-10w, Barton County; A. M. Landon et al 1 Union, SW cor. 7-24-10w, Reno County.

The Greater Silica field, as listed in a recent order of the Corporation Commission, is the largest prorated producing area in Kansas. The Wolf, Knop, Ernsting, South Silica and West Ellinwood pools were added to the Silica field in commission records.

Estimated Daily Production

Estimated daily production for Kansas for the week ended September 21, and for the preceding week, was as follows:

	Barrels	
	Sept. 21	Sept. 14
Oxford City	700	700
Burrton	8,300	8,400
Ritz-Canton	4,200	4,250
Graber	2,500	2,450
Hollow-Nikkel	1,400	1,450
Lerado	700	650
Voshell	1,600	1,650
Wellington	1,700	1,750
Ellsworth County:		
Lorraine	1,600	1,650
Other pools	5,200	3,100
Rice-Barton counties:		
Bloomer	5,750	4,550
Chase	5,250	4,800
Geneseo	3,800	3,900
Raymond	850	800
Silica	18,400	18,800
Keesling	550	900
Wherry	4,000	4,000
Miscellaneous Barton	8,500	8,150
Trapp district	15,950	14,450
Balance Russell County	21,100	18,950
Sedgwick County	3,200	3,300
Ellis County:		
Bemis	10,450	12,050
Miscellaneous	8,810	9,110
Kingman County	1,070	350
Stafford County	11,625	10,100
Greenwood County	8,950	9,000
Eldorado	7,450	7,400
Other fields	38,095	40,940
Total Kansas	201,700	194,600

WILDCAT COMPLETIONS

Stafford County: Shell and Atlantic 1 Riley, SW SW SW 28-23-11w. Anhydrite 558 ft., Fort Riley 1,760 ft., Topeka 2,858 ft., Lansing 3,323 ft., Viola 3,648 ft., Sooy 3,643 ft., Simpson 3,698 ft., Arbuckle 3,772 ft., T.D.: P.B. 3,646 ft., pay 3,450-93 ft., perforated, acidized with 6,000 gal., flowed 183 bbl. of 26-gravity oil in 6 hr., potential 1,342 bbl. oil with 335 bbl. water; seismograph structure. Opens Riley pool northwest of Zenith field.

Greenwood County: A. D. Allison et al 1 Short, NE cor. 10-24-11. Mississippi 1,927 ft., T.D., 1,956 ft., dry.

Ellsworth County: Duwe, Farris & Rover 1 Rathbun, E½ NE SE 6-17-8w. Lansing 2,783 ft., Sooy 3,246 ft., Arbuckle 3,305 ft., T.D. 3,319 ft., dry.

Johnson County: McCain, Sherrod et al 1 Doan, E½ NW SE 34-12-22. Mississippi 987-1,387 ft., Hunton 1,428 ft., T.D. 1,585 ft., dry.

FIELD COMPLETIONS

Barber County

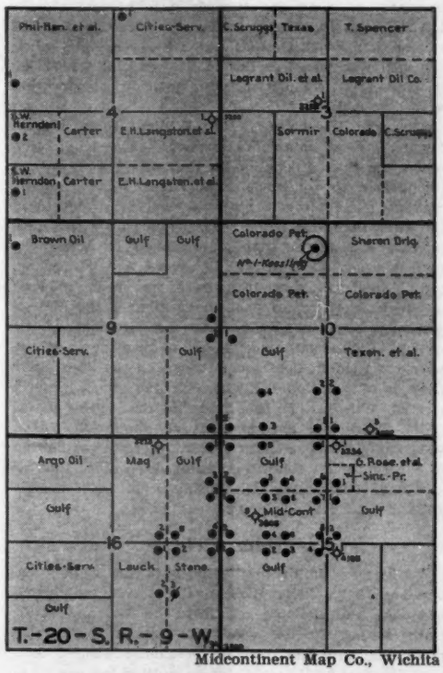
Medicine Lodge field: Barbara O. & G. 1 Trice, C SE 8-33-13w. Mississippi 4,667-4,810 ft., T.D. 4,821, dry.

Barton County

Clawson pool: Hollow Drilling et al 3 Kowalsky, S½ NE NE 18-20-11w. Arbuckle 3,294-3,300 ft., acidized 1,000 gal., potential 3,000 bbl.

Silica field: Lario and Atlantic 5 Bryant, N½ SW SE 23-20-11w. Arbuckle 3,262-79 ft., acidized 1,000 gal., potential 3,000 bbl.

Trapp field: Cities Service 5 Bauman, N½ NE SW 6-16-13w. Arbuckle 3,341-55 ft., acidized 8,000 gal., potential 3,000 bbl.



Midcontinent Map Co., Wichita

Colorado Petroleum, Inc., extended the Keesling pool, Rice County, about ½ mile northward at No. 1 Keesling, CEL NE NW 10-20-9w. It swabbed 43 bbl. of oil initially from Arbuckle lime at 3,233 ft., total depth

Butler County

Brandt pool: Adair & Morton 2 Cannon, SW SW NW 15-28-7. Mississippi 2,664-86 ft., acidized 3,000 gal., pumped 188 bbl. in 8 hr., potential 563 bbl.

Ferrell pool: Larry Hay et al 3 Ferrell, SE SE SW 21-28-8. Mississippi pay 2,691 ft., base Mississippi 2,940 ft., Arbuckle 3,030 ft., T.D. 3,068 ft., P.B. 2,742 ft., acidized 1,500 gal., pumped 15 bbl. oil and 8 bbl. water.

Cowley County

Clover pool: R. J. Wixson et al 1 Clover, W½ E½ 17-31-7. Mississippi 2,782 ft., pay 2,804-10 ft., T.D. 2,812 ft., acidized 2,000 gal., pumped 35 bbl. of 39-gravity oil.

Ellis County

Bemis field: T. M. Deal 3 Bemis, S½ NW NE 4-12-17w. Arbuckle 3,608-14 ft., pumped 128 bbl. in 8 hr., potential 378 bbl.

Deal 3 Dreiling, S½ NW SW 4-12-17w. Simpson 3,600 ft., T.D. 3,634 ft., dry.

Ellsworth County

Stoltenberg district: Cities Service 1 Kralik, N½ NW NW 8-16-10w. Arbuckle 3,271-90 ft., acidized 3,000 gal., potential 3,000 bbl.

Texas 2 Schroeder, S½ NE SW 27-16-10w. Arbuckle 3,268-90 ft., acidized 6,000 gal., pumped 222 bbl. in 15 hr., potential 3,000 bbl.

Cities Service et al 7-A Schroeder, W½ W½ SW 29-17-9w. Arbuckle 3,234-43 ft., acidized 3,000 gal., pumped 227 bbl. in 15 hr., potential 656 bbl.

Greenwood County

Reese pool: Katz 7 Christy, NW NE SE 12-26-9. Mississippi 2,145 ft., pay 2,147-65 ft., T.D. 2,180 ft., acidized 500 gal., pumped 10 bbl. oil.

Severy pool: Hammer & McLean et al 1 Knight, NW SW SW 4-28-11. Kansas City 1,170 ft., T.D. 1,302 ft., dry.

Lemon & Shewmaker 1 Anderson, W½ SE SE 6-28-11. Kansas City 1,125 ft., T.D. 1,258 ft., dry.

Grant County

Hugoton field: Panhandle Eastern 1 Dappert, NW NW SW 28-30-37w. Set 7-in. casing 2,460 ft., T.D. 2,899 ft., gaged 930,000 cu. ft. gas, acidized with 10,000 gal., gaged 18,750,000 cu. ft.

Marion County

Lost Springs pool: Loriaux & Harrington 4 Fosberg, SE SW SW 21-17-4. Mississippi 2,370-2,440 ft., T.D., pumped 102 bbl. in 8 hr., potential 306 bbl.

McPherson County

Bornholdt field: Central & Springrose 4-B Swanson, E½ SE NW 18-20-5w, chat 3,328-67 ft., flowed 352 bbl. in 4 hr., potential 3,000 bbl.

E. K. Carey 3 Knackstedt, S½ NE SW 30-20-5w. Chat 3,282-3,323 ft., flowed 311 bbl. in 1 hr., potential 3,000 bbl.

Sunray 4 Johnson, S½ SW NE 31-20-5w. Chat 3,334-44 ft., T.D. 3,358 ft., shot with 20 qt., pumped 50 bbl. in 8 hr., potential 151 bbl.

Roxbury pool: Stelbar et al 1 Nilson, W½ SE SE 18-17-1w. Mississippi 2,649-2,668 ft., acidized 2,000 gal., pumped 137 bbl. in 8 hr., pumped 413 bbl. oil and 12 per cent water daily.

Rooks County

Laton pool: Broadview Oil et al 6 Livingood, N½ SW NW 11-9-16w. Lansing 3,142-3,206 ft., acidized 4,000 gal., potential 2,785 bbl., calculated.

T. C. Johnson 2 Luhman, N½ SE NW 10-9-16w. Lansing 3,160-98 ft., T.D. 3,235 ft., P.B. 3,195 ft., acidized 8,000 gal., potential 1,794 ft., calculated.

Russell County

Hall-Gurney field: Phil-Han Oil 4 Letsch, SE NE NE 34-14-13w. Lansing 2,802 ft., pay 2,824-44 ft., acidized 15,000 gal., pumped and flowed 1,855 bbl. in 8 hr., potential 5,567 bbl.

Cities Service 2-A Ebel, S½ SE SW 24-14-14w. Lansing 2,912 ft., pay 2,936-3,090 ft., granite wash 3,172 ft., T.D. 3,188 ft., shot with 108 qt., pumped 315 bbl. in 8 hr., potential 947 bbl.

Skelly 5 Ben Rein, E½ SE SW 25-14-14w. Lansing 2,865-2,980 ft., acidized 7,000 gal., pumped 480 bbl. in 8 hr., potential 1,441 bbl.

Hartman & Blair 3 Boxberger, S½ SE NE 26-14-14w. Lansing 2,903 ft., pay 2,921-25 ft. and 2,938-46 ft., T.D. 2,948 ft., acidized 7,000 gal., pumped and flowed 724 bbl. in 8 hr., potential 2,172 bbl.

Stafford County

Stafford pool: Stanolind 1 Crawford, S½ SE NE 15-24-12w. Viola 3,818-45 ft., acidized 3,000 gal., flowed 173 bbl. in 2 hr., potential 3,000 bbl., calculated.

Zenith field: Stanolind 8 McComb, N½ NW NW 12-24-11w. Misener 3,688 ft., Viola 3,705 ft., T.D. 3,765 ft., acidized 3,000 gal., flowed 156 bbl. in 2 hr., potential 3,000 bbl.

Stanolind 10 Hartnett, N½ NW NW 13-24-11w. Old well deepened from 3,772 ft. in Misener sand topped at 3,752 ft., to Viola at 3,772-3,811 ft., acidized 3,000 gal., potential 3,000 bbl.; old potential 539 bbl.

Sinclair Prairie 2 Krey, S½ N½ NE 14-24-11w. Old well deepened from 3,785 ft. to 3,825 ft. in Viola topped at 3,785 ft., potential 3,000 bbl.; old potential 30 bbl.

WILDCAT DRILLING REPORT

Barber County

Barbara Oil 1-A Angell ..... C NE SE 10-33s-14w
Drilling below 4,525 ft.

Derby Oil & Crow Drlg. 1 Hancock C SE SE 10-32s-12w
Mississippi 4,307 ft., good showing oil and gas at 4,313-20 ft., drilling below 4,343 ft.

Ellsworth County

C. L. Carlock et al 1 Karber....W½ NW NW 7-19s-10w
Set casing 165 ft.

Greenwood County

Ward McGinnis 1 Sharp..... C SW SW 9-28s-12e
Rigging up machine.

Kearny County

Stanolind 1 Judd ..... C SE SE 15-21s-38w
T.D. 6,071 ft., P.B. 3,860 ft., drilling cement 3,990 ft.

Marion County

H-L-N Oil Co. 1 Shields ..... S½ SE SE 19-17s-4e
First report.

Harrington & Loriaux 1 Belton .. SE SE NE 30-17s-4e
T.D. 2,420 ft., P.B. to 2,416 ft., pumped 90 bbl. in 8 hr.

McPherson County

F. S. Williams et al 1 Henne.... SW SW NE 21-17s-1w
Set 15-in. 41 ft., drilling below 625 ft.

Osage County

J. M. Edwards 1 Detrich ..... C NW SE 21-14s-15e
Old well drilled deeper; old T.D. 1,650 ft., drilling below 2,145 ft.

Pratt County

Marvlyn Oil et al 1 Jackson ... CEL NE NW 1-27s-13w
S.D. 4,312 ft.

Rice County

Alpine O. & R. 1 Fair ..... CSL SE NW 10-21s-9w
Cemented 8-in. 202 ft., anhydrite 225 ft., drilling below 2,530 ft.

(Continued on Page 99)

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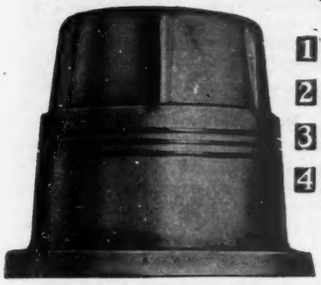

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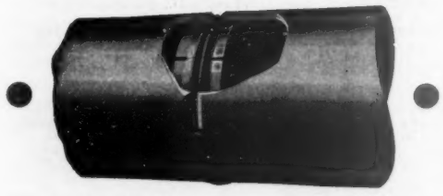

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TEXAS GULF COAST

Wilcox Sand Strike Gives San Jacinto County First Oil

By NEIL WILLIAMS

HOUSTON, Tex., Sept. 23.—Exploration along the Texas Gulf Coast sector of the Wilcox trend was further enhanced as the result of a new Wilcox sand strike in San Jacinto County. The discovery was made by Harrison & Abercrombie 1 Sun Oil Co. fee which at the close of the week was flowing at an estimated rate of 145 bbl. of amber-colored distillate per day through a 12/64-in. choke. Tubing pressure was 2,400 lb. and casing pressure 1,875 lb. The well was drilled to a total depth of 8,590 ft., and 5½-in. casing was cemented at 8,400 ft. after shale with sand streaks having a gas and distillate odor was logged at 8,217-37 ft. and at 8,257-77 ft. Salt water was recovered when the well was tested earlier in the week at 8,290-8,315 ft. and final completion was made by perforating casing at 8,215-77 ft.

The well is located in the William Hays Survey, about 3 miles south of Shepherd. The completion opens the first production in the county and will no doubt lead to revival of wildcatting along this immediate trend. It is the second well to be drilled in the immediate area being several miles from the same operator's 1 W. S. Dixon, abandoned in June at a total depth of 8,820 ft. The discovery well was drilled tight, and geological tops have not been released although it is reported to have topped the Wilcox section at approximately 8,250 ft. Geologically the well is situated on strike, about midway between the Sheridan field in Colorado County and the Joe's Lake field in Tyler County, which is the most easterly located Wilcox type of field on the upper Texas Coast. With the abandonment of numerous Wilcox tests along this particular sector, interest was shifted to the southwest following recent discoveries such as Sheridan, Thomaston and Washburn in Colorado, De Witt and La Salle counties.

Lolita Field

An increase in drilling activity in the rapidly expanding Lolita field, Jackson County, is anticipated following the showing of Shield Oil Co. and P. R. Rutherford 1 Mitchell which has apparently extended production into the townsite of Lolita. Drilled to a total depth of 6,575 ft., 5½-in. casing is being cemented for a production test following two drill-stem tests, both of which showed considerable oil. The first test at 5,933-36 ft. recovered 2,000 ft. of oil in 10 minutes, while a second test at 5,936-40 ft. recovered 3,770 ft. of oil and 170 lb. working pressure. The salt-water level was apparently established as another test at 5,940-45 ft. recovered 1,820 ft. of oil and 25 ft. of salt water. C. G. Glasscock 1 Walker, 1 mile south of production is preparing to drill to the 6,300-ft. sand after failing to find saturation in the discovery zone at 5,957 ft. At the end of the week there were five wells preparing to test.

In the Ogburn field, Harris County, Joyce Richardson et al 1 Rorick, about 3,000 ft. southwest of the discovery well, was preparing to test a second time after recovering oil and salt water at 6,932-47 ft., the total depth. Top of the oil sand which correlates a few feet lower than the discovery well at 6,930 ft. and cored to the total depth. A cement plug has been set to shut off the salt water which is believed to be coming from the bottom of the hole.

Mount Houston Discovery

H. C. Cockburn et al 1 Burkitt, completed the previous week as the discovery well of the Mount Houston field, Harris County, flowed 455 bbl. of 22.2-gravity oil on a 24-hour potential test through a ¼-in. choke. The Frio sand from which the well is producing was topped at 4,056 ft. and production is from perforated casing at 4,068-74 ft. No new locations have been announced for the field.

Following the completion of 1-B Fontenot which extended production in the South China field, Jefferson County, several hundred feet north, Titanic Oil Co. is moving in material for 1-C L. D. Fontenot in the H.T.&B. Survey, Section 17. On the south edge of the field, Pan American 1 Fontenot is bottomed at 8,049 ft. and 7-in. casing was cemented at 8,000 ft. preparatory to testing sand at 7,843-57 ft. where an electrical survey showed 3½ ohms resistivity and 40 millivolts porosity.

An extension to the deep sand flanking the northwest side of the Fannett dome, Jefferson County, was made by the completion of Gulf 1-E Marrs-McLean which flowed 566 bbl. in 16 hours through a ¼-in. choke. Sand, topped at 8,205 ft., was cored to a total depth of 8,227 ft. and the well was completed with 7-in. casing cemented at 8,213 ft.

The Rowan field, Brazoria County, gained its third operation as Humble Oil & Refining Co. moved in material for 1 Hubbard, a northwest offset to Rowan Drilling Co. 2 Hubbard, a producer in the William Harris Survey.

TEXAS GULF COAST COMPLETIONS

Brazoria County

Old Ocean field: Stanolind 3 Giles, 385 bbl., ¼-in. choke, perf. casing 10,115-55 ft., T.D. 10,970 ft.

Chambers County

Anahuac field: Humble 25 Clark, 677 bbl., ¼-in. choke, top sand 7,029 ft., T.D. 7,080 ft.
South Cotton Lake field: Humble 6-D Lawrence, 114 bbl., ⅛-in. choke, top sand 6,500 ft., T.D. 6,514 ft.
Wildcat: Standard of Texas 13-66 State, dry, 9,126 ft.

Fort Bend County

Thompson field: Gulf 18-B Wolters, 43 bbl., ¼-in. choke, perf. casing 5,408-23 ft., T.D. 5,445 ft.

Galveston County

League City field: Titanic 1 Stewart, 258 bbl., ⅛-in. choke, top sand 8,679 ft., T.D. 8,728 ft.
Wildcat: Texas 1 E. J. Kainer, dry, T.D. 10,017 ft.

Hardin County

Sour Lake field: H. F. Baker 1 Glass, 283 bbl., pumping, top sand 1,158 ft., T.D. 1,166 ft.

Jackson County

Lolita field: Tide Water 1-L Ranch Co., 242 bbl., 5/32-in. choke, perf. casing 5,941-45 ft., T.D. 5,946 ft.
Skelly 3 Ward, 231 bbl., ⅛-in. choke, perf. casing 5,923-25 ft., T.D. 5,931 ft.
West Ranch field: Magnolia 4 Turner, 524 bbl., ¼-in. choke, perf. casing 5,763-69 ft., T.D. 5,770 ft.
Magnolia 100-A West, 586 bbl., ¼-in. choke, perf. casing 5,551-59 ft., T.D. 5,563 ft.
Darby 1 E. A. Turner, 584 bbl., ¼-in. choke, perf. casing 5,755-60 ft., T.D. 5,768 ft.

Jefferson County

Lovells Lake field: Shell 4 Nelson, 148 bbl., ⅛-in. choke, sand 7,781-85 ft., T.D. 7,809 ft.
Humble 4 Steinhagen, 137 bbl., ⅛-in. choke, sand 7,783-90 ft., T.D. 7,790 ft.
South China field: Titanic 1-B Fontenot, 170 bbl., ⅛-in. choke, perf. casing 7,872-84 ft., T.D. 7,901 ft.
West Beaumont field: Stanolind 12 Keith Dowlen, 442 bbl., ¼-in. choke, perf. casing 5,349-61 ft., T.D. 5,400 ft.

Liberty County

Hardin field: Humble 2 Cessna, 55 bbl., ⅛-in. choke, top sand 7,521 ft., T.D. 7,628 ft.

Polk County

Segno field: Humble 27-B Kirby Petroleum Co., 281 bbl., ¼-in. choke, top sand 8,125 ft., T.D. 8,185 ft.

Tyler County

Joe's Lake field: Republic 42 Hurd fee, 409 bbl., ¼-in. choke, top sand 7,654 ft., T.D. 7,700 ft.

Wharton County

Hilljue field: Texas 2 Peters, 86 bbl., ⅛-in. choke, top sand 5,192 ft., T.D. 5,240 ft.
Magnet field: Humble 24 Cockburn, 259 bbl., ¼-in. choke, top sand 5,531 ft., T.D. 5,542 ft.
Withers field: Pan American 2 Halamicek, 126 bbl., 8/64-in. choke, top sand 5,537 ft., T.D. 5,545 ft.

TEXAS GULF COAST DRILLING REPORT

Austin County

Humble 7-Y Hardy, deep test N edge of Raccoon Bend field, drilling shale 7,250 ft.
Humble 17-Y Woodley, projected Wilcox test, Raccoon Bend field, drilling shale 8,210 ft.

Brazoria County

Rowan Drilling Co. 1 Bradbury, outpost test, Rowan field, drilling shale and lime 4,586 ft.
Stanolind 1 Hodnett, Rowan field, T.D. 3,170 ft., running surface casing.

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LOUISIANA GULF COAST

Test 1 Mile From Delta Farms Discovery Shows Good Sands

By NEIL WILLIAMS

NEW ORLEANS, La., Sept. 23.—Interest in coastal Louisiana was centered on the Delta Farms field, La Fourche Parish where preparations were being made to test Texas 1 State Bayou Perot, located approximately 1 mile southeast of the discovery well. The well is bottomed at 11,374 ft., and casing is being cemented preparatory to testing a series of sands cored at intervals from 6,900-9,766 ft. While detail information of the well has not been released, it is reported that five sand sections were cored, and all showed oil with the exception of a sand at 9,506-40 ft. which was logged as a gas sand. An electrical survey was made before casing was cemented and it was not learned whether the discovery sand at 11,290-11,305 ft. was encountered. The field was opened in March of this year by Tide Water Associated Oil Co. with the completion of 1 Delta Farms which is credited with having cored several sands before logging the 11,000-ft. sand.

Texas 1 State, the discovery well of the Lake Salvador field, St. Charles Parish, is running screen for a final production test after the well flowed 540 bbl. of 35.2-gravity oil per day through a $\frac{7}{16}$-in. choke after being recompleted in sand at 9,775-9,800 ft. This new field is situated several miles northwest of the Barataria field in 26-16s-22e. Locations for three additional wells were made by the same company, and drilling is expected to be started on the second test as soon as the rig can be released from the discovery well.

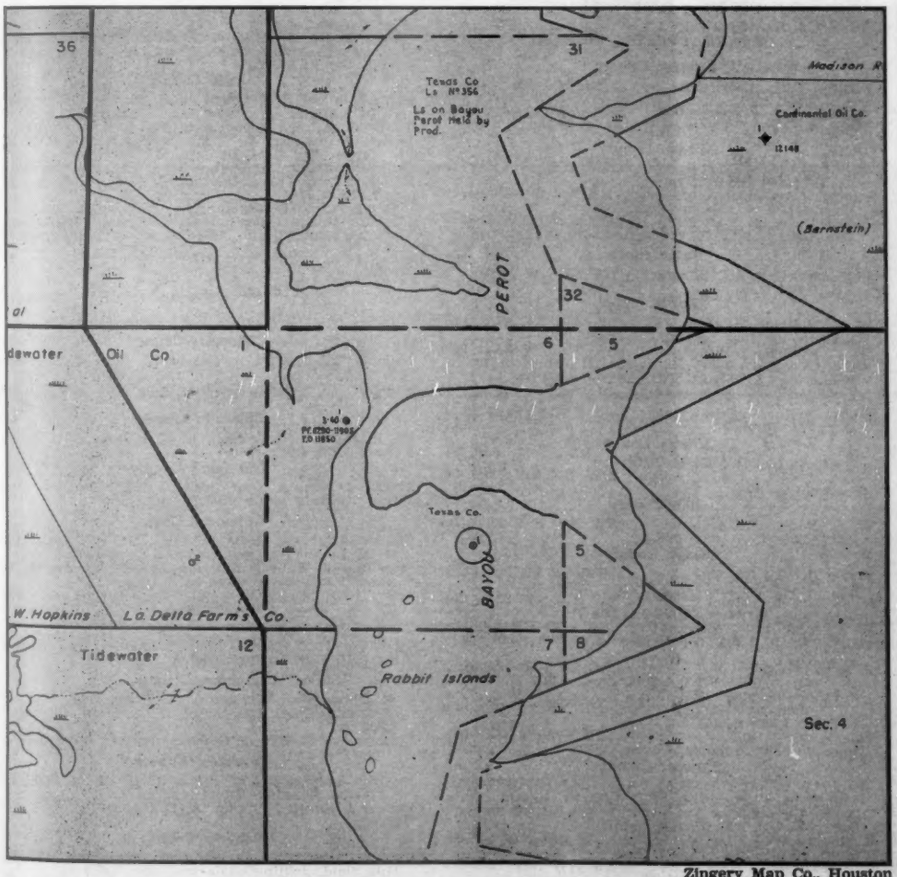
Cranston & Cheesman 1 Bourgeois, located on the south flank of the old Welsh dome, Jefferson Davis Parish, which has been in the process of completion for the past several weeks, is reported to have been completed for a small producer although no gage was available. Casing was reperforated at 5,320-26 ft., and the well is said to have flowed 39.5-gravity oil through a ¼-in. choke. Several attempts to develop production around the flanks of this dome have been made within the past 2 years, but all were failures and the only production developed thus far has been from shallow sands on top of the structure. On the southeast flank, Union Sulphur Co. recently started drilling operation on 1 B. J. Fontenot, a projected deep test.

In the Erath field, Vermilion Parish, Humble 1 Vermilion Parish School Board is drilling in hard sand below 11,562 ft. Sand with a gas odor was topped at 11,388 ft. This is the first showing to be reported and the well at its present depth is several hundred feet below the discovery pay. Location is about ½ mile due west of the discovery in 16-13s-4e.

One of the most attractive test drilling in the district is Superior 3 State located on the Calcasieu Lake dome in Cameron Parish which is drilling in shale below 13,409 ft. At this depth the well is still reported to be in the Miocene sand, and drilling will continue until the Oligocene section has been reached. This is one of the few tests in the district that has been drilled below 13,000 ft.

Humble 1 Leger, completed several weeks ago to open the first commercial production on the South

(Continued on Page 100)



Zingery Map Co., Houston

Plat of the Delta Farms field, La Fourche Parish, showing location of Texas 1 State Bayou Perot which is expected to open a major extension to the field

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Discouraging Results Found In Northeast Ohio Tests

By STAFF CORRESPONDENT

NEWARK, Ohio, Sept. 23.—Ohio fields put in a quiet week, completing 11 gas wells, 7 small oil wells, and 8 dry holes.

In Lake County the East Ohio Gas Co. (Carter) is drilling at 3,303 ft. in the test on the Andrews farm, Lot 90, Kirkland Township, or about 300 ft. above the Clinton sand. There was no showing from a Newburg horizon in the Lockport dolomite. In Concord Township, Lot 15, these operators have reached 2,114 ft. in the F. L. Mather test with the Oriskany sand dry. In Geauga County no decision has been reached regarding 1 George W. Cryle, Lot 1, Chardon Township, which is standing at 3,676 ft., or 50 ft. in the red Medina.

In Belmont County Natural Gas Co. of West Virginia is drilling at 2,000 ft. in the wildcat deep test on the E. A. Mobley farm, Section 19, Smith Township. At 2,100 ft. of string of 8⅝-in. casing will be run and hung.

Athens County

Ames Township: Orndoff 1 J. O. Earich, fraction 32, 40,000 cu. ft. gas, shot, second Berea, T.D. 1,450 ft.
Bern Township: Bern 1 L. W. Harris, Sec. 18, dry, Maxon, T.D. 1,054 ft.

Holmes County

Hardy Township: Bell 1 O. J. Finley, Sec. 17, 70,000 cu. ft. gas, Berea, T.D. 826 ft.
Washington Township: Ohio Fuel 1 F. A. Ullman, Sec. 6, dry, Clinton, T.D. 3,035 ft.

Newark Field—Licking County

Mary Ann Township: Davis 2 Elmer Lothes, Sec. 16, 1,100,000 cu. ft. gas, shot, Newburg 2,220-37 ft.
Settles Oil 2 L. S. Snoor, Lot 10, fourth quarter, 6 bbl., shot, Berea 775-83 ft.
Newark Township: Wehrle 2 James Shaw, Lot 5, third quarter, 880,000 cu. ft. gas, Clinton 2,299-2,329 ft.
Ohio Fuel 1 M. E. Van Tassell, first quarter, 680,000 cu. ft. gas, Clinton 2,367-85 ft.

Lorain County

Grafton Township: Abrams 2 G. Walker, Lot 54, dry, Berea 125-80 ft.
Forest 12 C. W. Wise, Lot 53, dry, Berea 125-30 ft., T.D. 190 ft.
Forest 13 C. W. Wise, Lot 53, dry, Berea 122-204 ft.

Medina County

Chatham Township: Preston 1 Gleen Garver, Lot 14, Tract 16, dry, Berea, T.D. 408 ft.
E. R. Edson & Son Co. 19 Samuel Brant, Tract 19, Lot 3, dry, Berea 510 ft.
E. R. Edson & Son Co., 20 Samuel Brant, 20 bbl., Berea 497 ft.
E. R. Edson & Son Co. 21 Samuel Brant, 20 bbl., Berea 495 ft.
E. R. Edson & Son Co. 22 Samuel Brant, 5 bbl., Berea 528 ft.
E. R. Edson & Son Co. 23 Samuel Brant, 5 bbl., Berea 525 ft.

Monroe County

Summit Township: Lucas & Thornberry 1 William E. Young, Sec. 23, 4 bbl., lime, T.D. 1,206 ft.

Morgan County

Marion Township: Tschoppatt 1 G. H. Young, Lot 19, dry, Maxon, T.D. 1,035 ft.

Muskingum County

Wayne Township: Atha 1 Charles W. Fisher, Sec. 8, 400,000 cu. ft. gas, Clinton 3,985-4,020 ft.; (60,000 cu. ft. gas), Medina 4,070-74 ft.; (340,000 cu. ft. gas).
Blue Rock Township: Gas Producing Co. of Ohio 1 R. H. Finley heirs, SW Sec. 9, 2,000,000 cu. ft. gas, Clinton sand, T.D. 4,294 ft.

Perry County

Clayton Township: Pure Oil Co. 3 Martha J. Miller, NE Sec. 18, 2 bbl. before shot and 50,000 cu. ft. gas, Clinton sand, T.D. 3,384 ft., drilled into Medina which was dry, will plug below Clinton sand and shoot.

Stark County

Pike Township: Obermiller 1 Codrea Serban, Sec. 11, 240,000 cu. ft. gas, Red Clinton 4,712-54 ft., T.D. 4,778 ft.

Summit County

Boston Township: Dempsey 1 James Cassidy estate, Lot 2, NW. 400,000 cu. ft. gas, shot, Newburg 2,988-3,018 ft.

Richland County

Monroe Township: Ohio Fuel 1 Ella Ernsberger, Sec. 1, 330,000 cu. ft. gas, Clinton 2,415-19 ft., T.D. 2,428 ft.

Wayne County

Clinton Township: Ohio Fuel 1 T. L. Berry, Sec. 12, dry, Clinton, T.D. 3,096 ft.
Chester Township: Ohio Fuel 2 M. S. McMasters, Sec. 30, 1,570,000 cu. ft. gas, Clinton 3,072-80 ft. and 3,085-90 ft.

INDIANA

EVANSVILLE, Ind., Sept. 23.—Only routine developments took place in Indiana during the past week with six oil wells and four dry holes completed. Outside of the active areas in Gibson and Posey counties and in Spencer County, operators are largely marking time, and the majority of the tests are reported shut down.

INDIANA COMPLETION REPORT

Gibson County

J. Bander et al 37 Cooper.....NW NW SW 18-3s-13w
Pumped 120 bbl., 30-qt. shot 2,498-2,505 ft., T.D. 2,509 ft.
Continental 11 Bozeman.....NE SW NW 26-3s-14w
Pumped 192 bbl., Waltersburg 2,052-88 ft., Benoist 2,641-55 ft., T.D. 2,959 ft.
Anderson Minton et al 1 Boeglin E½ SE NW 10-4s-10w
Dry. Ste. Genevieve 2,017 ft., H.F.W. 2,100-05 ft., T.D. 2,109 ft.

Posey County

R. C. Creager 1 Struch-Welborn..SW SE NE 1-7s-12w
Pumped 115 bbl., pumped off in 12 hr., 40-qt. shot 1,735-45 ft., T.D. 1,745 ft.
Continental 4 Kleidner.....NW NE NW 35-3s-14w
Pumped 100 bbl., 40-qt. shot 2,520-36 ft., T.D. 2,943 ft.
Nelson 2 Hortsman.....SE NE NE 7-6s-12w
Pumped 42 bbl., dropped to 25 bbl., 1,136-45 ft.
W. C. McBride 2 Swanders.....NE NW NE 4-4s-14w
Pumped 137 bbl., natural, 2,785-97 ft.
C. Robinson 1 Peoples St. Bk. SE NW SE 26-7s-15w
Dry, T.D. 2,882 ft.

Spencer County

H. M. Hunt et al 1 Seay.....NE NW 5-8s-6w
Dry, Palestine 970-75 ft., H.F.W.
Shell et al 1 Bretz.....SW NW SW 3-7s-6w
Dry, T.D. 1,039 ft.

INDIANA DRILLING REPORT

Daviess County

Newton P. L. 1 Brittain.....NE NE SW 15-1n-5w
S.D. 2,150 ft.
Newton P. L. 1 Darsan.....NW SW SE 35-2n-5w
Ste. Genevieve 597 ft., drilling 620 ft.

Gibson County

Hall Edwards 4-C Maier.....NE NE SE 14-3s-14w
Drilling 300 ft., first report.
Papoose 14 Cooper-A.....NE NE SW 13-3s-14w
Location, first report, twin.
J. Bander et al 9 Cooper.....NW SW NE 13-3s-14w
Tar Springs 2,121-26 ft., saturation, triplet well.

Jay County

Petroleum Dev. 1 J. Binegar....NE NE NW 29-24n-13e
S.D. 3,404 ft.

Knox County

W. C. McBride 1 Lewis.....NE NE NE 26-2n-11w
Rigging up, first report.
W. C. McBride 1 Winckler.....SW SW SW 24-2n-11w
Ste. Genevieve 1 906 ft., swabbed 52 bbl. in 13 hr., McClosky 1,872-78 ft., T.D. 1,881 ft., testing.

Martin County

Collier & Burton 1 Swayze.....NW NE NE 10-3n-4w
Drilling 170 ft.

Orange County

United States Oil 1 G. E. Willyard.....
NW NE SW 33-1n-1w
Location.

Pike County

W. H. Neub et al 1 Stone.....SW NW NW 21-1n-7w
S.D. 1,356 ft.

Posey County

Jarvis Bros. 1 Murphy.....SW SE SE 35-3s-13w
Ste. Genevieve 2,714 ft., drilling 2,770 ft.
L. & G. et al 1 Maier.....NW SW NW 33-3s-13w
Glen Dean 2,184 ft., sand 2,442-56 ft.
W. C. McBride 3 Swanders.....SW NW NE 4-4s-14w
Glen Dean 2,308 ft., Barlow 2,498-2,518 ft., T.D. 2,795 ft.
P. Rossi 3 Egli.....SE SE NW 19-6s-12w
Est. 600 ft. oil in hole, P.B. from 2,727 ft., drilled out drillable pipe 2,370-87 ft.
C. T. Somers et al 1 Hill.....NE NE NE 2-4s-14w
Drilling 1,325 ft.
Tide Water 1 Doll.....SE SW SE 33-3s-14w
Location, first report.

Spencer County

Benoist 1 Abbott.....NE NE NW 7-7s-7w
Top Chester lime 969 ft., T.D. 1,004 ft., to run casing.
Damron 2 Boyd.....SW SE SE 30-7s-6w
Spray 15 bbl. 928 ft., not completed.
B. Hoover et al 2 Rothert.....SW NW NW 1-5s-6w
Shot 100 qt. 725-28 ft., S.D.
D. McPherson 1 Nichols.....SW NW NW 10-8s-6w
Drilling 555 ft. (correction).

Vigo County

H. N. Oakley 1 Mowery.....NW NE SW 29-13n-8w
Location, first report.

EASTERN KENTUCKY

ASHLAND, Ky., Sept. 23.—Two gas wells and one oil well were completed in eastern Kentucky this week with one dry hole also listed.

Lee County

T. Wittmer 14 C. J. Tipton, on Billie's Fork, 1 bbl.
T. Wittmer 13 C. J. Tipton, connected to tank.
South Penn Oil 114 Flahaven Land Co., at Town Hollow in the Big Sinking district, dry.

Floyd County

Kentucky-West Virginia 5275 Henderson Roberts, on Big Branch of Little Mud Creek, 1,602,000 cu. ft. gas at 1,561 ft. in Salt sand, 457 lb. R.P.

Knott County

Kentucky-West Virginia Gas 596 Ira G. Sparkman, on King Creek, 94,000 cu. ft. gas, shale, T.D. 2,965 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., Sept. 23.—Nine wells were completed in western Kentucky during the past week of which six were producers. W. E. Hupp got a 325-bbl. well in the Hebbardsville pool and has another well ready for testing after setting pipe. Good completions were also reported from the Livermore pool in McLean County and the Handyville pool in Daviess County.

WESTERN KENTUCKY COMPLETIONS

Daviess County

Handyville district: Stewart & Snyder 5 Anna Ezell, 50 bbl., 80-qt. shot, Jett sand 1,260-80 ft., 80-qt. Jones sand 1,402-24 ft., 60-qt. Jackson sand 1,502-23 ft., 40-qt. Bethel sand 1,624-31 ft., T.D. 1,652 ft.
Staves 8 L. I. Igleheart, 200 bbl., 140-qt. shot, Jett 1,242-74 ft., T.D. 1,275 ft.
Tellier 1 E. F. Lebold, West tract, drilling at 1,340 ft., old T.D. 1,251 ft.
Utica district: O. D. Vickers et al 3 William Johnson, 250 bbl., 70-qt. shot, Barlow sand 1,383-1,405 ft., 70-qt. Bethel sand 1,439-55 ft.
Petroleum Co. 3 Ed Howard, rigging up.

Edmonson County

Brownsville district: Kingwood Oil and Kentucky Natural Gas 1 Kyrock, dry, T.D. 1,572 ft.

Henderson County

Hebbardsville district: W. E. Hupp et al 1 Otto Busby, 75 acres (King-Pruitt-Min.), 325 bbl., natural, second Jett sand 1,522-34½ ft.
W. E. Hupp and McCummings 1 Otto Busby, 50 acres, Jett pay 1,537-43 ft., testing.
W. E. Hupp et al 2 Otto Busby, 75 acres (King-Pruitt-Min.), location.

McLean County

Livermore district: J. C. Ellis 1 Lula Edmonds, 12 bbl. an hr., 1,000 gal. acid, McClosky 1,635-43 ft., T.D. 1,646 ft.
W. Sargent et al 9 B. and S. Butterfield, moving in.
Glenville district: Ohio 3 G. B. McManama (Tract 2), testing, drilled deeper from 1,385 ft. through McClosky 1,672-80 ft.

Ohio County

Sunnydale district: Tuttle et al 10 Lena Berry, dry, T.D. 178 ft.
Tuttle 11 Lena Berry, location.
Fordsville district: A. Y. Smith, Jr., et al 3 C. P. Kissinger, dry through Jett, T.D. 410 ft.
Buford district: Rex-Pyramid 1 S. B. Wiggington, 10 bbl., 60-qt. shot, Jackson sand 1,062-74 ft., T.D. 1,112 ft.
Rex-Pyramid 2 Arthur Jolly, location.
Pleasant Grove Church district: United Petroleum 1 A. I. Miller, 5 bbl., 60-qt. shot, Jett sand 280-303 ft.

Texas Gulf Coast

(Continued from Page 90)

Chambers County

Humble 2-A-246 State, Galveston Bay, drilling hard sand 9,572 ft.
Humble 1-C-45 State, Galveston Bay, coring sand 8,457 ft.

Colorado County

W. R. Davis 1 Brownson, E. S. Wooley Sur., drilling shale 3,232 ft.

Fort Bend County

Titanic 1 Mozola, N of Orchard field, Sarah Kennedy Sur., drilling shale 485 ft.

Galveston County

Continental 1 W. S. Davis, 3 mi. NE of League City, M. Muldoon Sur., drilling shale 8,954 ft.
Stanolind 2 Hulen, Alta Loma field, recovered salt water 9,820-45 ft., plug back to retest.
Texas 1-237 State, Galveston Bay, drilling shale 6,985 ft.

Harris County

Cities Service 1 Kuehn, NW of Houston, G. L. Bellows Sur., 10¾-in. surface casing 1,850 ft.

Jackson County

C. G. Glasscock 1 Walker, G. H. Ewing Sur., 1 mi. SW of Lolita field, T.D. 5,957 ft., prepare to drill to 6,300 ft.
Pure 1 Spacek, SW of Ganado, drilling shale 5,017 ft.

Jefferson County

British American 1-72 State, Gulf of Mexico, T.D. 7,475 ft., heaving shale.
Hebert & Smith 1 Young, A. Houston Sur., T.D. 6,775 ft., dry.

Liberty County

Gulf 1 Phoenix Development Co., deep test SE flank Hull field, drilling shale and lime 7,667 ft.

Matagorda County

Pan American 1 Sisk, S flank Markham dome, drilling 6,057 ft.

By
DAL DALRYMPLE

Operations Increase in Hewitt Field, State's Busiest Area

THE West Hewitt area in Carter County is the busiest single pool in Oklahoma, with activity increasing as first reports of new work exceed completions. Three producers were completed the past week and six new tests were reported. There were 11 drilling wells, 4 rigs and 5 locations at the week end.

One of the better and typical producers completed in the area is the Gibson & Jennings 5 Walker-Voorhees, N½ S½ NE 20-4s-2w. It had initial production of 450 bbl. of oil flowing through 7-in. casing from sand series at 2,168-2,221 ft. after a shot with 50 qt. at 2,198-2,221 ft. Numerous 150 and 250-bbl. producers have been completed, with others rating as high as 500 bbl. and as low as 20 bbl. The area is immediately west of the old Hewitt field and east of the southeast sector of the Healdton field. Some observers believe the new area may prove a connecting link between the older Hewitt and Healdton fields.

Two wildcats are reported in the Prague area, southern Lincoln County. H. L. Berkey et al were due to start a Senora sand test in NE NW 28-12-6, about 2 miles north and ½ mile east of the Prague pool and ¼ mile east of Prague townsite. The Prague pool, opened several months ago by Berkey and associates, straddles the Lincoln-Pottawatomie County line and has not been defined. The other wildcat is the Mohican Drilling Co. 1 Hoffman, SE cor. 18-12-6, northwest of Prague and southeast of the South Wilzetta pool.

Two productive areas have been found near the flanks of the Seminole City pool, Seminole County. Stanolind Oil & Gas Co. 1 Grisso, NE NW SW 15-9-6, between the Seminole and East Earlsboro pools, flowed 83 bbl. of oil and 4 bbl. of water in the last 23 hours of a test and was shut in. It topped Senora zone at 2,887 ft., had sand at 2,893 ft., set 5½-in. casing at 2,887 ft. and was bottomed at 2,924 ft. Justin Oil Co. 1 Rhea, CSL SE SW 12-9-6, between the Seminole and East Seminole fields, was to be completed on pump after flowing 18 bbl. of oil in the last 24 hours from Hunton lime at 4,032-61 ft. It previously had swabbed 50 bbl. of oil in 12 hours after acidizing.

A Wilcox sand pool was opened south of Bristow, Creek County, at M. B. Springer and R. P. Bates 1 Forbes, SE NW SW 20-15-9. It was reported swabbing 100 to 150 bbl. of oil daily while cleaning out hole bottomed at 3,657 ft. in Wilcox sand topped at 3,639 ft. Operators planned to clean out and run tubing in an effort to get the well to flow. They plan to drill two offsets soon.

Kadane et al 1 Andrews, NW NW NW 35-2s-19w, wildcat northwest of the Graham pool, Tillman County, performed briefly when the control gate was opened and gas blew a bucket on top of the casing nearly to the top of the derrick. Oil sprayed high into the air before the gate was closed, it was reported. Considerable high-gravity oil was said to have slopped over the casing from a leak in the control head. Operators were preparing to move in standard tools and complete in pay at 5,465-80 ft.

WILDCAT COMPLETIONS

Comanche County: Stogner 1 Lowe, SE NW NW 7-1n-10w, south of the Lawton pool, sand 245-56 ft., pumped 5 bbl. oil.

Okfuskee County: Burke-Greis 1 Dew, NE NE NE 9-12-9, about 6 miles northwest of Okemah, Hunton 3,888 ft., gas 3,891 ft., oil 3,906 ft., Sylvan 3,936 ft., Viola 4,010 ft., sandy dolomite 4,069 ft., first Wilcox 4,078 ft., second Wilcox 4,119 ft., T.D. 4,127 ft., P.B. 3,935 ft., perforated 3,890-3,910 ft., acidized 1,500 gal., flowed 40 bbl. of distillate in 12 hr. with 10,000,000 cu. ft. of gas, flowed 30 bbl. distillate in 24 hr. through tubing choke, with 1,500,000 cu. ft. gas.

Pottawatomie County: I. H. Townsend et al 1 Lynn, NW NE NW 28-6-4, Viola 3,576 ft., second Wilcox 3,899 ft., T.D. 3,925 ft., perforated, dry.

Seminole County: J. T. Miller et al 1 Davis, SE SE NE 20-10-8, Booch 3,174 ft., Cromwell 3,590 ft., T.D. 3,621 ft., dry.

COMPLETIONS IN POOLS

Carter County

Hewitt field: Lamb 1 fee, NW NW NE 29-4s-2w, sand 2,304-24 ft., T.D., 7-in. casing 2,298 ft., shot with 30 qt. at 2,313-23 ft., pumped 22 bbl.

Gibson et al 1 Lamb, NE NW NE 29-4s-2w, old well deepened from 2,296 ft. to 2,315 ft., shot with 35 qt. at 2,303-15 ft., pumped 34 bbl. oil and trace of water.

Caddo County

Rollins et al 1-A Rigney, SW SW NW 12-5-9w, set 7-in. casing 4,602 ft., T.D. 4,616 ft., perf. 3,367-87 ft., gaged 19,000,000 cu. ft. of gas, R.P. 1,800 lb.

Creek County

Cushing field: Smith 2 fee, NE NW SE 26-19-7, sand 2,658-91 ft., T.D., shot with 90 qt. at 2,660-91 ft., pumped 25 bbl. oil daily.

Lincreek area: Brauer 1-B Ary, C NW SW 31-16-7, sand 1,141-61 ft., T.D., dry.

South Sapulpa area: J. R. Schulte 2 Harris, SW NE SE 32-17-11, T.D. 550 ft., dry.

J. R. Schulte 3 Harris, NW NE SE 32-17-11, T.D. 557 ft., dry.

Grady County

Knox field: McCasland 1-A Kilgore, SW NW NW 27-3n-5w, set 7-in. casing 1,645 ft., T.D. 2,540 ft., P.B. 1,720 ft., pumped 8 bbl.

Ray 1 Kearns, NE SW SE 21-3n-5w, set 7-in. casing 2,301 ft., T.D. 2,375 ft., pumped 10 bbl.

Hughes County

Fish area: Delaney 1 Warren, SE SE NW 29-7-8, Wapanucka 3,013 ft., T.D. 3,153 ft., dry.

Jackson County

Altus field: Gulf 5 Herbert, NW SE SE 9-1n-20w, granite wash 1,636-40 ft., T.D. 1,668 ft., pumped 45 bbl. oil and 30 bbl. water.

Estimated Daily Production

Estimated daily production in Oklahoma for the week ended September 21, and for the preceding week, was as follows:

	Barrels	
	Sept. 21	Sept. 14
Allen	5,200	5,250
Billings	6,050	6,050
Burbank	7,200	7,350
South Burbank	7,950	8,025
Balance Osage	17,750	17,800
Blackwell district	3,350	3,350
Bristow-Slick	5,800	5,850
Chandler	1,075	1,050
Crescent	1,850	2,150
Cromwell	2,975	3,000
Cushing-Shamrock	9,250	9,325
Duncan	3,650	3,650
Edmond	3,800	3,825
Fish	3,150	3,175
Fitts	14,750	14,500
Jesse	2,150	2,225
Graham-Fox	2,450	2,500
Gray	825	850
Healdton	8,700	8,750
Hewitt	4,675	4,225
Keokuk	3,000	3,050
Konawa	1,050	1,100
Lucien	7,550	7,800
Moore	1,650	1,650
Northeastern counties	17,100	17,150
Oklahoma City	94,150	102,450
Olympic	2,025	2,075
Ramsey	3,700	3,725
Sasakwa	1,500	1,525
Sholem-Alechem	2,750	2,900
Seminole district:		
Bowlegs	6,700	6,625
Carr City	2,300	2,300
Dora	2,100	2,200
Earlsboro	4,075	4,025
East Earlsboro	1,800	1,800
South Earlsboro	525	500
Little River	6,500	6,725
East Little River	650	650
Maud	550	525
Mission	1,225	1,250
Seminole	6,800	6,850
East Seminole	1,250	1,275
Searight	2,025	2,050
Total Seminole	36,500	36,775
St. Louis-Pearson	24,500	25,150
Tatums-Tussy	3,150	2,875
Tonkawa-Garber-Thomas	3,650	3,650
Wewoka	1,625	1,550
Yale-Jennings	3,000	3,050
Other pools	82,850	83,550
Total Oklahoma	402,350	412,925

Kiowa County

Komalty area: Lewis 1 Wooten, SE SE SE 28-7-17w, Arbuckle 893-955 ft., T.D., pumped 43 bbl. oil and 11 bbl. water.

Okfuskee County

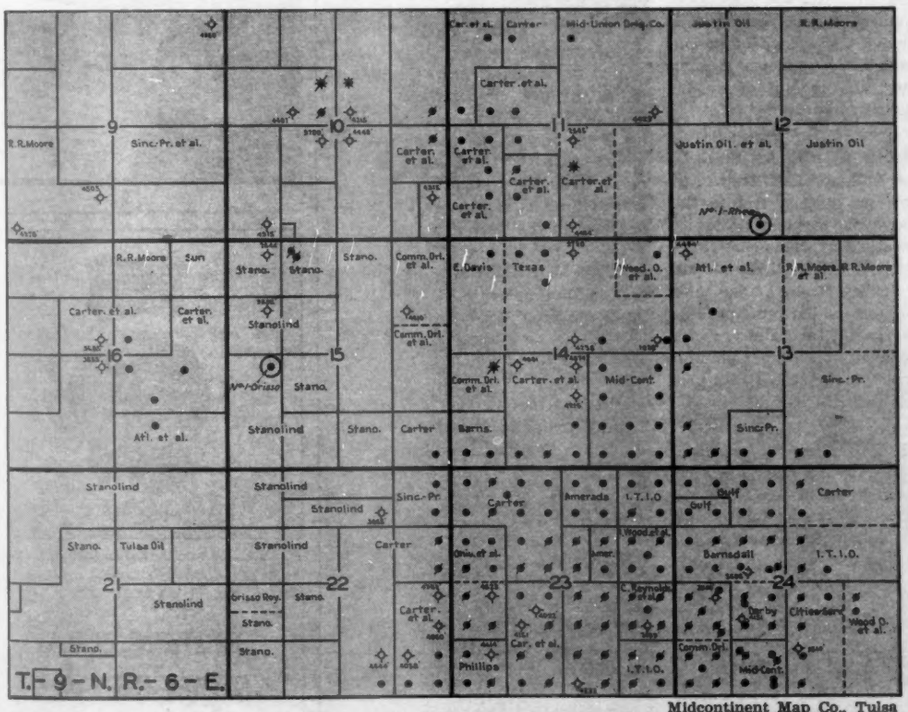
East Okemah area: Phillips 1 Replogle, SW SW SE 2-11-10, Cromwell 3,162 ft., lower Cromwell 3,185 ft., T.D. 3,191 ft., shot with 12 qt. at 3,189-91 ft., swabbed and flowed 109 bbl. of oil.

Deaner pool: Smith 1-A Lanin, SE SE SE 26-11-11, Booch zone 2,240 ft., sand 2,469-71 ft., T.D., gaged 2,000,000 cu. ft. gas.

Osage County

South Hickory Creek pool: Blackwell O. & G. 3

(Continued on Page 98)



Outposts on the flanks of the Seminole City field have opened producing areas. Stanolind 1 Grisso, NE NW SW 15-9-6, is between the Seminole and East Earlsboro pools, and Justin 1 Rhea, CSL SE SW 12-9-6, is between the Seminole and East Seminole fields

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Among the Drilling

ALLEN & MORRIS, San Antonio, Tex., started drilling operations on Shield Oil Co.'s No. 1 Gallagher, an outpost located in the Shield field, Nueces County, Texas. In the West Ranch field, Jackson County, drilling was started on a second well for Darby Petroleum Co., while in the old Bruni field, Webb County, American Liberty Oil Co.'s No. 8 Bruni, a Wilcox test, is drilling below 10,250 ft.

PARKER Drilling Co., Tulsa, Okla., has received contract from Texas Co. for its recently staked wildcat test in Grayson County, northeastern Texas. With the stratum objective not mentioned, the contract depth calls for 7,500 ft. It is to be No. 1 C. C. Hutchinson, on a 996-acre tract in the Samuel Stewart Survey, about a mile west of the Red River and in the Delaware Bend sector of Grayson County.

O. T. CLARK, contractor of Kilgore, Tex., spudded last week, before a large crowd of Ranger and Weatherford people, a 3,600-ft. wildcat test 6 miles north of Ranger in Stephens County, West Central Texas. It is being drilled for Mitchell Pierce Oil Corp. of Weatherford and is on the S. J. Whitson lands, near an old test drilled in 1919 by Texas Co. which produced for 10 years before being plugged. The crowd of people were enthusiastic citizens looking forward to the opening of an oil field in their community.

McCULLOCH & ICE, for Swadmo Oil Co., of Abilene, Tex., is preparing to start an outpost test to the Loving field of Stephens County, West Central Texas. It will be No. 1 Henry Compton, C NW SE Section 10, O.A.L. Survey. To be drilled with rotary, the test is between production in the Loving field and gas production opened on the Compton lands. It will test the Caddo lime productive in the field proper.

CRESCENT Drilling Co., Monroe, La., brought in Atlantic Refining Co.'s No. 2 Bodcaw in the McKamie field of South Arkansas for an initial 25 bbl. hourly through a 16/64-in. choke. The test went to 9,287 ft. and encountered 204 ft. of overall porous pay in the Smackover lime. McKamie is the deepest producing field in Arkansas.

BOBBY MANZIEL, independent operator and contractor of Tyler, Tex., has moved in one of his own rotaries for the drilling of a wildcat recently staked in southeastern Wood County, eastern Texas. It is No. 1 F. M. Morrison, about 3 miles north of Hawkins and in the southeast corner of a 65-acre tract in the James Pollock Survey. The test, contracted to the Woodbine sand, is reported backed by Humble Oil & Refining Co., which has held a 13,000-acre block in the area since 1934.

HOUSH & THOMPSON, Houston, Tex., opened another Wilcox sand producing field for the Texas Gulf Coast with the completion of Harrison & Abercrombie's No. 1 Sun Oil Co. fee, located near the town of Shepherd in San Jacinto County. The well is flowing gas and distillate from sand at approximately 8,200 ft. Seven other operations are reported for the Louisiana and Texas Gulf Coast sector.

OLSON Drilling Co., Tulsa, is drilling below 5,570 ft. in V. A. Hardin's No. 1 Valentine an important wildcat test southwest of Lisbon, Claiborne Parish, Louisiana. The test has encountered shows of oil and is being carried deeper before plugging back to test for production.

CHRISTIAN - CARPENTIER Drilling Co., Houston, Tex., is attempting to extend the Ogburn field, Harris County, Texas, about 3,200 ft. southwest as a production test is being made at No. 1 Rorick, which is being drilled jointly with Joyce Richardson. Oil sand was topped at 6,939 ft., and 5½-in. casing was cemented at 6,932 ft. Locations for two more wells were made by the firm, and drilling is scheduled to get under way in the near future.

RYAN & ANDERSON of Jackson are drilling below 5,400 ft. on Joe Dawson's No. 1 McGraw-Curran Lumber Co., a Yazoo County, Mississippi, wildcat.

HELMERICH & PAYNE, Inc., of Tulsa are drilling the Seaboard Oil Co.'s No. 1 Clarke and others, a Marion County, Alabama, wildcat. The 3,000-ft. contract test is drilling below 2,580 ft.

HARRY L. EDWARDS Drilling Co., Houston, Tex., is moving in a rig to Mud Island, offshore from Aransas County, Texas, in Aransas Bay. For Salt Dome Oil Corp. in Harris County drilling was started on Cities Service Oil Co.'s No. 1 Kuehn, a wildcat located northwest of Houston. Three other operations are reported at the Anse La Butte, Old

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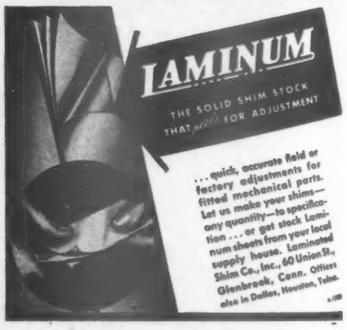
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Ocean, and Esperson fields for Harrison & Abercrombie, Stanolind Oil & Gas Co., and W. P. Luse.

E. J. FISHER, New Mexico contractor, has been trying to clean out the bottom at Norina Realty Co. No. 2 Pajarito, NW NE Section 22-9-1e, Bernalillo County, New Mexico, for the last 30 days. Originally bottomed at 2,760 ft., the crew was reported cleaning out at 2,300 ft. Test is contracted to 3,500 ft., or production. It is being drilled to test showings of oil and gas logged in No. 1 Pajarito, wildcat, at around 3,200-3,300 ft. The No. 1, drilled several years ago, was abandoned due to mechanical trouble.

O. W. DYER, Houston, Tex., is preparing to make a production test of Atlantic's No. 1 W. E. Conwell, located 1 mile northeast of the Thomaston field in De Witt County, Texas. The well is bottomed at approximately 9,900 ft., and casing was cemented on bottom, preparatory to testing a new sand which was reported logged several hundred feet below the discovery pay.

SHARON Drilling Co. extended the Keesling pool, Rice County, Kansas, ½ mile northward at Colorado Petroleum, Inc., No. 1 Keesling, CEL NE NW Section 10-20-9w, producing from Arbuckle lime at 3,233 ft.

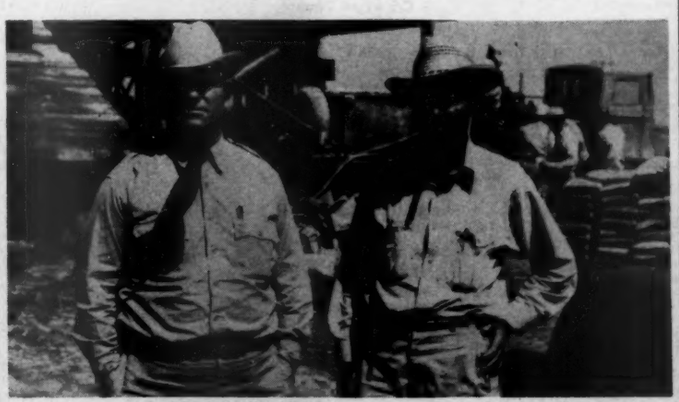
MOHICAN Drilling Co., Tulsa, is starting one of two wildcats seeking to open new productive areas or extend the Prague pool in southern Lincoln County, Oklahoma. The Mohican outpost is in SE SE SE Section 18-12-6e, northwest of the Prague pool and southeast of the South Wilzetta pool. Howard Berkey and associates, who opened the Prague pool south of the town of Prague and on the Lincoln-Pottawatomie county line, announced the second wildcat, to be drilled ¼ mile east of Prague townsite and 1½ miles north of the pool.

RUTHERFORD Drilling Co., Houston, Tex., extended production in the Lolita field, Jackson County, Texas, as the company's joint test with Fred Shield showed promise of production on a drill-stem test, and casing was cemented for completion. The well is located near the townsite of Lolita, and the completion may result in considerable drilling activity within the townsite.

COASTAL Drilling Co., Houston, Tex., is rigging up in San Jacinto County, Texas, for a wildcat located on the Gibbs Brothers lease in the northern part of the county. The well is being drilled jointly with B. Baker

TAYLOR Drilling Co., Centralia, Ill., was rigging up rotary at Pawnee Royalty Co.'s No. 1 Sandrock, C W½ SE NW Section 20-1n-6e, in the Falls City pool, Richardson County, Nebraska. The Pawnee company, discoverer of the Falls City pool and winner of the state bonus of $15,000 for the first producing well to be completed in the state, is starting two wells on the Sandrock lease.

JOCK GARDEN, Kansas drilling contractor, was moving in material to drill Jackson & Rust's No. 1 Eichoff, C NE NW Section 4-2n-16e, wildcat about 9 miles north of the Falls City pool and about 3 miles southeast of the I. T. I. O. pool opener in Richardson County, Nebraska. Rotary will be used. The operators are planning four tests on their Richardson County leases.



George Colvin, division superintendent for Arkansas Fuel Oil Co., and Grady Hopkins, superintendent for Arrow Drilling Co. of Tulsa, overseeing operations at a well being cemented in the Orange Grove field, lower Texas Gulf Coast

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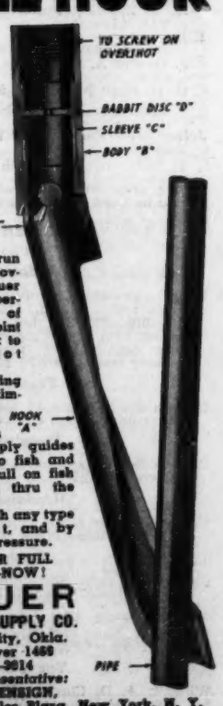
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New Wildcat Locations Mark Quiet Week in East Texas

By R. MARNE SANFORD

DALLAS, Tex., Sept. 23.—Prospective new wildcats paced the week's developments in eastern Texas as reports were made of intentions to drill exploratory holes in Wood, Anderson and Van Zandt counties.

The Wood County test is to be in the Hawkins area in the southeastern part of the county and will be Bobby Manziel, Tyler, 1 F. M. Morrison. The location is 330 ft. from the southeast corner of a 65-acre tract in the James Pollock Survey, 3 miles north of Hawkins. Manziel holds 1,000 acres of leases and about 500 royalty acres in the area and is in the approximate middle of a large 13,000-acre block which Humble Oil & Refining Co. has been building for about 6 years. The derrick is reported up for the new wildcat and materials are being moved to the drill site. The present contract depth is 5,000 ft.

In Van Zandt County T. G. Shaw of Fort Worth has staked his 1 D. T. Riley, 270-acre tract in the L. Smith Survey, 4 miles southwest of Canton. The operator holds 8,562 acres in the area and plans to start the wildcat by October 15.

In northeastern Anderson County and immediately outside the city limits of Frankston, Saul Rabenowitz of Kilgore has tentatively staked two sites, one of which will be drilled as a 5,000-ft. Woodbine sand wildcat. Both sites are in the Thomas Goss Survey and a test, according to the plans of a drilling contract reported completed, is to be started by October 1.

Seeking to spread lower Glen Rose wet gas production at Willow Springs in Gregg County on the west side or possibly seeking down-flank oil production, Humble Oil & Refining Co. is clearing site for 2 Horton & Dickson. It is 5,800 ft. northwest of the Humble-Gulf 1 Horton & Dickson, second well drilled in the field, and south of the original discovery well. The new location is in the Hezekiar Frost Survey.

EASTERN TEXAS COMPLETIONS

EAST TEXAS FIELD

(One-hour gage)

Gregg County

Longview area: L. & G. Oil 5 Lee, 62 bbl., 3,572-75 ft.
X. Y. Z. Oil 2 Fuller, slight show gas, no oil, dry, T.D. 3,734 ft.
Kilgore area: American Liberty 4 Sabine River, 60 bbl., 3,504-08 ft.
S. D. and A. M. Barnes 3 Willoughby, 40 bbl., 3,545-67 ft.
D. H. Byrd 3 Godfrey, 80 bbl., 3,563-3,605 ft.

Rusk County

Joiner area: Fair Oil 8-A Wiley, swabbed 12 bbl., 3,608-68 ft.

Smith County

Joiner area: Sinclair Prairie 19 Wright, old oil well to be used as salt-water injection well.

EAST CENTRAL TEXAS

(24-hour gage)

Anderson County

Long Lake field: Champlin-Bass 1 Keeling, combination gas and oil well, 115,000,000 cu. ft. gas through casing and 393 bbl. oil through 4/64-in. choke, 5,341-42½ and 5,266-88 ft.
Alex McCutchin 2 Reagan, 80 bbl. oil and 9 bbl. water from 5,367-79 ft.

Franklin County

Cayuga field: Texas 17 Barker, 212 bbl., through 2½-in. tubing from 4,128-4,276 ft.

Freestone County

Cayuga field: Stanolind 3 Moody, 197 bbl., ½-in. choke, from 4,008-25 ft.

Henderson County

Rowe & Baker field: Tyler & Smith 1 Rowe & Baker, top Woodbine 3,166 ft., dry, T.D. 3,776 ft.

Smith County

Chapel Hill field: Shell-Sun 1 Bacon, 218 bbl. distillate, ¼-in. choke, Pettit lime, perf. 7,968-8,003 and 8,021-54 ft.
Sun 1 Jones, 124 bbl. distillate, ¼-in. choke, lower Pettit lime and upper Travis Peak, perf. 8,090-8,112 and 8,022-53 ft.

Van Zandt County

Wildcat: A. D. Clark 1 Hallman, R. T. Wheeler Sur., 4 mi. SE Van, top Woodbine sand with salt water at 4,296 ft., dry at 4,379 ft., T.D.

DRILLING REPORT

Delta County

Partin & Skinner 1 Lomar, T. Jones Sur., S.D. 60 ft.

Ellis County

W. E. Butler 1 A. M. Sims, 1 mi. SW Bristol on 8,000-acre block, drlg. 2,579 ft.

Falls County

Joy Carruth 1 Westbrook, Manchaca Sur., 4½ mi. NE of Chilton, S.D. 730 ft.

Fannin County

H. T. Fleming 1 Welch, E. J. Allen Sur., 4 mi. NW Honey Grove, S.D. 90 ft.
Damon Oil 1 A. L. Chaffin, SW cor. 85-acre tract, J. Ketcham Sur., 4 mi. NE Bonham, clearing location.

Kaufman County

T. G. Shaw, Tr. 1 Agnes Wynne, B. S. Newman Sur., 8 mi. E Kaufman, lower Trinity test, base Massive 6,255 ft., T.D. 6,454 ft., S.D.

Leon County

Alexander & Wilhite 1 C. H. Mills, M. Copeland Sur., 2½ mi. E of Normangee, top Midway 3,850 ft., S.D. 4,365 ft.

Limestone County

Frank Bryan 1 F. Bevill, J. H. Murray Sur., 1 mi. SW Horn Hill, 10⅝-in. at 1,500 ft., drlg. 1,810 ft.

Red River County

J. F. Morrissey 1 Tyler, James Miro Sur., 3½ mi. SE of Bogata, 5,000-ft. test, 10-in. set at 110 ft., S.D. 599 ft.

Upshur County

H. C. McGahey 1 Ludie Turner, SE cor. 200-acre tract in A. Butler Sur., top Pecan Gap 2,380 ft., base Pecan Gap 2,970 ft., S.D. 4,211 ft.

Wood County

Amerada Pet. 1 J. J. Lloyd, William Barnhill Sur., 7 mi. E Yantis, 13⅜-in. at 552 ft., drlg. 1,800 ft.
Bobby Manziel 1 F. M. Morrison, James Pollock Sur., 4 mi. N Hawkins, first report.

Illinois Fields

(Continued from Page 79)

Drilling 1,152 ft., Golconda 740 ft., Cypress 797 ft., Benoist 920 ft., Ste. Genevieve 1,011 ft., St. Louis 1,137 ft.
G. Brainard 1 Lindley.....NE NE SW 26-6n-4w
Drilling 475 ft., 13-in. 75 ft.
Central States 1 Rich.....NW SE NE 28-6n-4w
Drilling 500 ft.
J. Farrelly 1 Kyle.....SW NW NW 28-4n-4w
Old T.D. 1,327 ft., S.D. 1,345 ft.

Bureau County

John Wall 1 F. J. Baird.....NW NW NW 9-18n-10e
Location. First report.

Clinton County

Snell & Goldsmith 1 Schaefer...SW NE NW 33-2n-3w
Elev. 454 ft., rigging up diamond core drill 2,596 ft.
L. S. Miller 1 Schmidt.....C E½ W½ SE 35-2n-5w
Drilling 1,805 ft.
Jones, Bechtel & Burgess 1 Hester NW SW NE 35-3n-1w
Tar Springs 1,135 ft., drilling 1,250 ft.
Kistler & Strawsey 1 A. Phoenix, NE NE SE 15-1n-1w
Rig. First report.
Kistler & Strawsey 1 Barry.....SE SW NW 22-1n-1w
Drilling 1,397 ft., Menard 998 ft., Glen Dean 1,145 ft., Golconda 1,206 ft., Cypress 1,702 ft. (no sand).
B. E. Martin 2 Heinzmann ..... NE NE NW 9-2n-1w
10-in. 60 ft., drilling 1,200 ft.

Crawford County

Fuller et al 1 Barnes..... .....7-5n-11w
Drilling 1,500 ft.
Bell Bros. 1 George Kersey.....NE SE NE 1-5n-13w
T.D. 2,805 ft., P.B. 1,477 ft., to test, P.B. to 1,360 ft.

Edgar County

Harry Dunn 1 Irwin.....NE NW NW 14-14n-14w
S.D. 495 ft.
G. J. McDerritt 1 Wilhoit.....SW SE SW 18-12n-13w
Spud. First report.
Downey & Cain 1 Stark.....NW NW NE 18-12n-13w
S.D. 597 ft.

Edwards County

Kingwood 1 Shurtleff.....E½ NE NW 4-1s-14w
Rigging up.
M. I. O. U. Corp. 1 H. G. French..E½ SE SE 4-3s-8e
Location. First report.

Effingham County

Erwin & Barr 1 Dammerman....NW NW SW 18-8n-4e
T.D. 1,562 ft., putting on pump.
Turner 1 Pruett.....SE SW NW 7-5n-3e
T.D. 1,395 ft., underreaming 7-in.
R. H. Troop 1 LeCrone.....NW NW SW 7-8n-4e
T.D. 1,558 ft., est. swab 3½ bbl. an hr., to put on pump.

Fayette County

Forest 1 B. D. Payne.....NW NE NW 27-4n-1w
Drilling 1,689 ft., 6-in. 1,600 ft.

Ford County

Nelson et al 1 Erp.....SW NW SE 19-24n-7e
Devonian 800 ft., S.D. 2,020 ft.

Franklin County

Manley Oil 1 Downen.....SW SW SW 26-7s-4e
Now flowing 375 bbl., T.D. 3,118 ft., testing.

Greene County

Scroggins 1 McVay.....SW NE 4-10n-11w
S.D. 217 ft., 12½-in. 69 ft., 10-in. 167 ft.

Hancock County

Sam Tate et al 1 J. Rice.....SW NE NW 28-4n-5w
Drilling 920 ft.

Jackson County

W. R. White 1 Dean.....NE NW NW 18-9s-3w
S.D. 1,240 ft.

Jasper County

Pure 1 J. W. Trainer.....W½ NW SE 8-5n-10e
Spud.
Johnson 1 V. V. Hunt.....E½ SE NE 17-8n-10e
Renault 2,414 ft., Aux Vases 2,445 ft., Ste. Genevieve 2,492 ft., Fredonia 2,576 ft., show oil 2,576-78 ft., pay 2,584-88 ft. and 2,596-98 ft., to run 7-in. to 2,560 ft.

Jersey County

Hughes Pet. 1 Kollall.....SE SE NE 22-8n-12w
Osage 61 ft., Lonsdale 430 ft., Chattanooga 455 ft., Devonian 465 ft., Maquoketa 595 ft., Trenton 625 ft., drilling 880 ft.

Lawrence County

Robinson 1 Sauers .....NW SE NE 20-3n-12w
Elev. 508 ft., drilling 2,628 ft.

Madison County

C. E. Baldwin 1 Daiber.....NE SE NE 23-5n-6w
Drilling 1,910 ft., Chattanooga 1,798 ft., Louisiana 1,722 ft., Devonian 1,875 ft., to plug.
Alch & Carroll 1 Rinkel.....SE NE NW 35-5n-6w
220 ft., 13-in. 178 ft.
E. J. Boescke 1 Riegel.....NW NW SW 17-3n-5w
Chester 780 ft., Ste. Genevieve 973 ft., St. Louis 1,040 ft., Warsaw 1,400 ft., drilling 1,945 ft.

Marion County

Big Four 1 Sherman.....NE NW NW 9-2n-1e
Old T.D. 3,004 ft., rigging up.

Macoupin County

Steward 1 Carlinville Nat'l. Bk. NE NE NE 35-9n-8w
S.D. 1,340 ft. (corrected), Devonian 1,300 (?) ft.
O. L. Smith 1 Klein.....SE NW NE SE 7-9n-7w
S.D. 665 ft.

Montgomery County

Ed Solomon 1 Carroll.....NE SE NE 3-8n-5w
Drilling 737 ft.
H. C. Detrich 1 W. H. Barnes..NW NE SE 20-10n-2w
Moving in.
Seaboard 1 O. Lay.....NW NW SE 20-8n-5w
Derrick.
Cunningham 1 J. Waggoner.....SE NE NE 29-11n-5w
10-in. at 32 ft., drilling 90 ft. First report.
Thorpe & Grant 2 B. Woods..SW NW NW 32-11n-5w
Drilling 462 ft.

Peoria County

Blue Bell O. G. 1 Kyle.....NW SW NW 17-8n-6w
T.D. 1,011 ft., P.B. to 910 ft., cleaning out.

Randolph County

Rand Dev. 1 Brandt ..... SE SE SE 17-5s-5w
13-in. 125 ft., drilling 540 ft.

St. Clair County

Harris et al 1 City Park.....NW SE 34-2n-9w
S.D. 1,575 ft.
F. Mitchell 1 G. Schaubert.....SE SE SW 23-1n-6w
Location. First report.

Saline County

Parker & Son 1 fee.....NW SW SE 8-10s-5e
Elev. 412 ft., drilling 3,910 ft.
H. G. Spiller et al 1 Ada Sisk....NE NE NE 15-10s-6e
Location. First report.

Tazewell County

Bartelmay 1 Mathis.....SW NW SW 24-2s-3w
Junked and skidded 50 ft. N.

Wabash County

U. S. Oil 1 Stillwell.....SW NW SE 7-1n-11w
S.D. 1,580 ft.
Duncan 1 Helm.....SE SE NW 15-3s-14w
Close 1,811 ft., drilling 1,813 ft.
Hayes et al 1 Gunfel.....SE NE 9-1n-13w
Drilling 1,973 ft.
B. Lambert 1 Kalb.....SW SE SE 23-1s-13w
10-in. 101 ft., drilling 1,360 ft.

Washington County

A. Barton et al 1 Edmiston.....NE NE SW 5-2s-2w
Spud. First report.
Gardner Pet. 1 Frederking.....SE SW SW 28-2s-3w
Moving in. First report.

Wayne County

McCoy & Henry 1 Forth.....SW SW NW 3-2s-6e
Drilling 1,102 ft., 10-in. 92 ft.

White County

W. C. McBride 1 F. Hon.....SW SE SW 33-3s-14w
Drilling 2,378 ft., Menard 2,028 ft., Tar Springs 2,172 ft., Glen Dean 2,302 ft.
Mazda & Palmer 1 Lee Storms..N½ SW SE 26-5s-9e
Filled up 1,700 ft. fluid, 16 per cent oil, to P.B. from 3,167 ft.
C. D. Neff 1 Garner.....SE SE SE 36-4s-10e
Rosiclare 2,949 ft., 2,000 ft. oil in hole, 5 hr. at 2,972 ft., running tubing.
Arrow Drlg. 1 J. C. Hon.....SE NE NE 5-4s-14w
Menard 2,040 ft., drilling 2,602 ft.
Sitesdinger 1 Miller.....W½ SE NE 8-7s-10e
Chester 1,778 ft., drilling 1,785 ft.
W. M. Angle 1 C. O. Myers.....W½ NW NW 5-5s-9e
Location. First report.
Carter 1 B. Questell.....SW NW SE 2-7s-9e
Glen Dean 2,459 ft., Benoist 2,830 ft., drilling 2,865 ft.
Carter 1 E. B. Green.....SE NE NW 2-7s-9e
Drilling 1,683 ft.
Carter 1 H. Questell.....NW NE SW 2-7s-9e
Drilling 1,631 ft.

Woodford County

Morton O. & G. 1.....NW NW SE 31-26n-1e
St. Peter test, Burlington 670 ft., Devonian 985 ft., Trenton 1,615 ft. H.F.W. 1,619 ft.

Extend McElroy Field South Two and a Half Miles

By R. MARNE SANFORD

MIDLAND, Tex., Sept. 23.—The Upton County portion of the McElroy field was given a 2½-mile south extension during the week to open several hundred acres of prospective oil area. Some believe a new field has been discovered, however, production is from the same horizon as the field immediately to the north and there are no dry holes in the intervening area.

The extension producer is Texas Pacific Coal & Oil 1 Eddleman, Section 208, Block F, C.C.S.D.&R.G.N.G. Survey. From several sections of saturation drilled from 2,945-70 ft., 3,000-50 ft., and 3,210-3,220 ft., the well swabbed a total of 160 bbl. of oil in 24 hours after being shot with 990 qt. As the week closed tubing was being run for official gage.

In Crane County's new Ordovician field American Liberty 10-A Tubb, the second well, was officially gaged for 2,876 bbl. of oil daily, flowing natural. Production is from the Ellenburger lime. The daily gage was based on the last 4 hours of a 6-hour test through 2-in. tubing and 5½-in. casing. Pay was topped at 5,746 ft. and the well is bottomed at 5,790 ft. Some correlations place the well 25 ft. higher structurally than the discovery immediately to the southeast.

New activity was predicted for Schleicher County when Shell Oil Co., Inc. completed leasing of a 60,000-acre block about 5 miles west of the Harold B. Opp 1 Jackson, field opener. The block centers around Section 14, Block A, G.C.&S.F. Survey, and is about 12 miles long and 9 miles wide. The approximate corners of the block are Section 26, Block 2, G.C.&S.F. Survey on the southwest, Section 41, Block A, G.C.& S.F. Survey on the northwest, Section 7, Block LL, T.C. Survey on the northeast and Section 141, Block A, H.E.&W.T. Survey on the southeast. The leases were taken, reportedly based on a gravity-meter structure. No drilling obligation was involved in the deal.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Crane County

Tubb field: American Liberty 10-A Tubb, flowed 2,876 bbl. through tubing and casing, naturally, from 5,737-90 ft., Ellenburger lime.
Waddell field: Gulf 23 Henderson, flowed 13,014 bbl., naturally, through casing, T.D. 3,509 ft.
Gulf 33 Waddell, dry, top anhydrite 1,140 ft., salt 1,218 ft., Yates 2,209 ft., T.D. 3,737 ft., sulfur water.
Texas 26 Connell, flowed 752 bbl. through casing, 1,110-qt. shot, 3,470-3,650 ft.

Ector County

Foster field: Atlantic 1-B Foster, 1,190 bbl., 1-in. choke, 780-qt. shot, 3,910-4,183 ft.
Shell 5-C Withcer, 524 bbl. through tubing, 293-qt. shot, 3,898-4,183 ft.
North Cowden field: Barnsdall 17 Smith, 976 bbl., ¾-in. choke, 300-qt. shot, 4,070-4,220 ft.
Johnson field: Great Western Prod. 5 Johnson, 681 bbl. through tubing, 515-qt. shot, 3,890-4,076 ft.
I.T.I.O. 4-D Johnson, 1,168 bbl., 1½-in. choke, 200-qt. shot, 4,050-4,155 ft.
Jordan field: Sinclair Prairie 1-78 University, 878 bbl., 1-in. choke, 150-qt. shot, 3,569-3,619 ft.
Cities Service 3-B University, 988 bbl., naturally, ¼-in. choke, 3,489-3,611 ft.
Goldsmith field: Phillips-Pure 105 Cowden, 2,048 bbl. 3-in. casing outlet, 5,000 gal. acid, 4,101-57 ft.

Upton County

McCamey field: Shell 3 Bowen, originally 45 bbl., top pay 2,075 ft., T.D. 2,144 ft., deepened to 2,190 ft., pumped 97 bbl., 1,000 gal. acid.

Ward County

Wildcat: Atlantic 2 Wickett-University, dry, brown lime 2,620 ft., Yates 2,750 ft., T.D. 3,281 ft.
F. W. Downey 1 Burks, dry, sulfur water, T.D. 2,748 ft.
Estes field: Gulf 143 O'Brien, 518 bbl. through casing, 430-qt. shot, 2,620-2,776 ft.

Winkler County

Wildcat: Krupp-Flaherty 1 Brown, 50 bbl. through tubing, 380-qt. shot, 2,800-3,151 ft.

DRILLING REPORT

Crane County

Gulf 1-F University, SE SE Sec. 22, Blk. 31, University Sur., drilling 5,220 ft.

Ector County

Forest Development Corp. 1 Bradley, SE SE Sec. 18, Blk. 43, Twp. 3s, T.&P. Sur., drilling 600 ft.
Forest Development Corp. 1-H Moss, SW NW Sec. 48, Blk. 43, Twp. 2s, T.&P. Sur., drilling 650 ft.

Crockett County

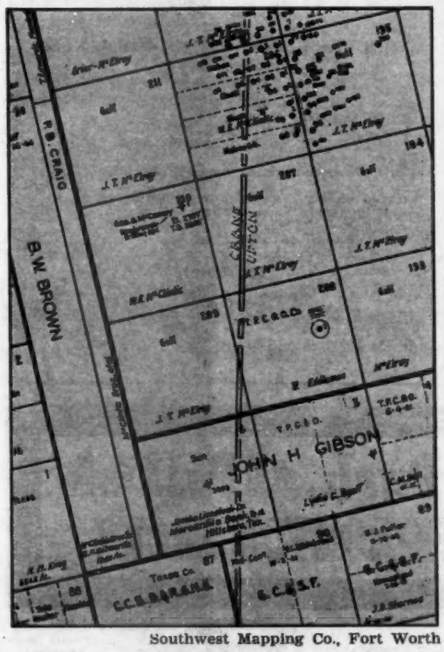
Moore Exploration and Olson Drilling 1 Couch, W. S. Piggs Sur., top Yates sand 1,063 ft., prepare run 7-in. casing 1,249 ft.

Hudspeth County

Haymon Krupp 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur., 5½-in. casing cemented at 6,202 ft., T.D. 6,224 ft., cementing cavings last report.

Pecos County

Landreth Prod. 1 McDonald, SE SE Sec. 37, Blk. 11, H.&G.N. Sur., location.
S. D. Pattillo 1 Hoffman, SE NW Sec. 6, Blk. 141, T.&St.L. Sur., 2,000-ft. test, drilling 600 ft.
Taubert, McKee & Siemonelt 1 Crockett, SW Sec. 4½,



Southwest Mapping Co., Fort Worth

The McElroy field on the Crane and Upton County line was given a 2½-mile south extension by Texas Pacific Coal & Oil 1 Eddleman. It is showing 160 bbl. daily on swabbing tests from the same pay horizon as is productive in the field to the north

Blk. 3, H.&T.C. Sur., set casing 2,905 ft., gas 3,150 ft., drilling 4,029 ft.

Presidio County

Wilcox 1 Conring, Sec. 102, Blk. 4, H.&T.C. Sur., S.D. casing 1,038 ft.
Wilcox 2 Jones-Coffield, Sec. 38, Blk. 34, H.&T.C. Sur., P.B. to 2,369 ft. from 2,399 ft., prep. P.B. again, last report.

Sutton County

Domain 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W.& N.G. Sur., Ellenburger lime test, S.D. 1,098 ft.

Terrell County

H. H. Sides 1 Rose, Sec. 15, Blk. 148, T.&St.L. Sur., location.

Reeves County

Roy Johnson 1 Perkins, Sec. 18, Blk. 7-C, P.S.L. Sur., T.D. 1,462 ft., last report.

Upton County

Texas Pacific 1 Eddleman, SW NE Sec. 208, Blk. F, G.C.S.D.&R.G.N.G. Sur., 6⅝-in. casing set at 2,869 ft., shot 990 qt. 2,945-3,250 ft., prepare start pumping gage.
J. F. Slaughter 1 Porter, Sec. 184, Blk. E, C.C.S.D.& R.G.N.G. Sur., location.
B. H. Kean 1 Taylor, Sec. 22, Blk. 2-B, G.C.&S.F. Sur., drilling plug at 2,552 ft., last report.

Ward County

Fitzpatrick & Slack 1 Wilson, Sec. 145, Blk. 34, H.& T.C. Sur., 1¼ mi. SE of discovery well, spudded and shut down.
Gulf 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur., scheduled Ordovician test, top Ellenburger 9,022 ft., preparing to cut drill pipe near T.D. 9,187 ft. due to unobtainable fish at T.D.
Sinclair Prairie 1 Wirt Davis, 330 ft. NW, 2,310 ft. SW lines, Sec. 32, Blk. 4, H.&T.C. Sur., 3,500-ft. test, broken oil shows from 2,827 to 3,190 ft., T.D. 3,300 ft., reaming casing at 2,450 ft.

Winkler County

Gulf 147 O'Brien, SE Sec. 11, Blk. F, G.M.M.B&A. Sur., first report.

NORTHERN WEST TEXAS

One new wildcat test was staked in Gaines County during the week and two outpost tests were staked to the Hockley County portion of the Slaughter-Duggan field.

In western Gaines County, Frank J. Downey of Midland has staked his 1 Henry James, the location being in NW SE Section 368, Block G, C.C.S.D.&R.G.N.G. Survey. The contract depth is undetermined, either 5,500 or 6,000 ft. It is about 8 miles west of the south end of the Seminole field and the nearest test ever drilled was the old McElreath & Suggett 1 Sparks, Section 397, same block, about 3½ miles west. It was completed as dry in August of 1932 at a total depth of 4,846 ft. As an outpost to the Slaughter-Duggan field Magnolia Petroleum Co. has staked 1-G Mallett, 580 ft. from the north and west lines of Labor 9, League 50, Scurry County School Lands. It is a mile north of the company's 1-B Mallett in Labor 13 of same league which recently extended the Slaughter area 4 miles to the west and was instrumental in linking it with the Duggan field.

Magnolia Petroleum Co. also staked 2-G Mallett, 580 ft. from the south and east lines of Labor 4, League 49, Edwards County School Lands, a 1¼-mile outpost to the company's 1-D Mallett which recently extended the Slaughter area 3 miles to the north.

About 3 miles east of the Cedar Lake field and in Dawson County, Magnolia Petroleum Co. drilled plugs from its 1 Sandidge, Section 110, Block M, E.L.&R. Survey, closely watched test. The test showed a slight amount of gas with no oil or water present when swabbed through 2½-in. tubing the first hour. After being closed for 12 hours the test was opened and 1,200 ft. of sulfur water was in the hole. Further course of the company regarding the test was not announced. It had drilled prospective pay from 4,925 to 5,065 ft.

NORTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Andrews County

Means field: Humble 30 Means, location abandoned.

Dawson County

Wildcat: Sloan & Zook 1 Sypert, dry, elev. 2,855 ft., top Yates sand 2,180 ft., Brown lime 3,430 ft., solid lime 3,610 ft., T.D. 4,072 ft., sulfur water.

Gaines County

Wasson field: Carter 9 Moore, 1,529 bbl., 1-in. choke, 9,000 gal. acid, 4,901-5,035 ft.
Carter 3-C Wasson, 1,060 bbl., ¾-in. choke, 9,000 gal. acid, 4,903-5,009 ft.
Humble 2-B Blackemore, 511 bbl., ½-in. choke, 1,500 gal. acid, 5,105-5,290 ft.
Seminole field: Magnolia and Atlantic 1-212 H.&J., 562 bbl., ½-in. choke, naturally, 5,150-5,320 ft.
Magnolia and Atlantic 5-221 H.&J., 486 bbl., ½-in. choke, 6,000 gal. acid, 5,145-5,238 ft.
Magnolia and Atlantic 10-265 H.&J., 292 bbl., ½-in. choke, naturally, 5,115-5,284 ft.

Howard County

Wildcats: R. M. Huff 1 Douthit, dry, T.D. 1,351 ft.
Shasta Oil 1 Thelma Cole, dry, T.D. 3,310 ft.

Yoakum County

Wasson field: Anderson-Prichard 9 Spearman-Willard, 1,668 bbl. through casing and tubing, 1,300-qt. shot, 4,950-5,148 ft.
Don Danvers 3 Comer, 916 bbl., 1¼-in. choke, 10,000 gal. acid, 4,975-5,700 ft.
Gulf 2 Moore, 508 bbl., ⅝-in. choke, 10,000 gal. acid 4,951-5,087 ft.
Humble 4 Armstrong, 967 bbl., ⅝-in. choke, 7,000 gal. acid, 4,868-5,068 ft., P.B. from 5,090 ft.
Humble 32 Wooten, 1,082 bbl., open tubing, 10,000 gal. acid, 4,895-5,119 ft., P.B. from 5,135 ft.
Oil Development 6-763 fee, 384 bbl., open tubing, 990-qt. shot, 4,880-5,215 ft.
Shell 4 Kendrick, 767 bbl., open tubing, 10,000 gal. acid, 4,935-5,115 ft.

DRILLING REPORT

Andrews County

Phillips 1 Embar, 60 ft. S line Sec. 31, Blk. 10, University Lands Sur., cored 4,140-58 ft., slight show oil, T.D. 4,165 ft., last report.

Dawson County

Magnolia 1 Sandidge, SE SE Sec. 22, Blk. 34, Twp. 4n, T.&P. Sur., small showing oil 4,931-33 ft., 4,945-50 ft., 4,960-65 ft., 5,040-43 ft., swabbing through tubing 5,065 ft., small show of gas but no oil or water.

Gaines County

Fred Postello 1 Henry James, SE Sec. 368, Blk. G, C.C.S.D.&R.G.N.G. Sur., first report.
Maloney Drlg. Co. 1 A. D. Neal, SW Sec. 34, C.&M. Cert. No. 414, first report.

Stonewall County

Shell 1 J. D. Patterson, SW NW Sec. 393, Blk. D, H.&T.C. Sur., Ordovician test, drlg. 6,280 ft.

Yoakum County

Sloan & Zook 1 Waples-Platter, Sec. 565, Blk. 4, Gibson Sur., top Brown lime at 4,340 ft., slight show oil 5,240-60 ft., swabbed and flowed 167 bbl. oil in 24 hr., S.D.

PANHANDLE

AMARILLO, Tex., Sept. 23.—To lead the developments of the week in the Texas Panhandle area a new wildcat was staked about 7 miles north of the Stinnett field in Hutchinson County.

It is Ed J. Dunigan 1 Mayfield ranch, Section 2, A. B. Pedige Survey. It is a mile south of Pringle and 5 miles north of production. About 2 miles to the east a wildcat was drilled last fall which found shows of oil but in noncommercial quantities.

Two wildcat tests were abandoned in the Panhandle during the week, both being in Childress County. Texas Co. 1 Smith, Section 97, Block 9, H.&G.N. Survey, in the northwest part of the county, was quit at a depth of 5,375 ft. with no shows of any consequence reported. Shell 1 Harris, Section 66, Block 13, H.&G.N. Survey, also in Childress County, was quit at 2,283 ft. after finding the dolomite and granite-wash horizons barren.

PANHANDLE COMPLETIONS

(24-hour gages)

Childress County

Wildcats: Texas 1 Smith, dry at 5,375 ft.
Shell 1 Harris, dry at 2,283 ft.

Gray County

Magnolia 34 fee, 346 bbl., 2,785-2,818 ft.
Shirley Clum 2 Davidson, 246 bbl. pumping, shot, 3,010-98 ft.
Wilcox 43 Combs, 206 bbl. pumping, shot 2,949-3,055 ft.

Hutchinson County

Barnsdall 13 Lewis, 240 bbl. pumping, shot 2,910-59 ft.
Kewanee 45 Badger-Lewis, 346 bbl. pumping, shot 2,880-3,000 ft.

Moore County

Panhandle Eastern Pipe Line 1-5 Walker, 35,700,000 cu. ft. gas, 9,000 gal. acid, 2,375-2,670 ft.
Shamrock 16 Sneed, 74,200,000 cu. ft. gas, 9,000 gal. acid, 2,560-2,684 ft.

SOUTHEAST NEW MEXICO

HOBBS, N. M., Sept. 23.—A new 1,550-ft. sweet-gas field was in prospect for Eddy County as the past week closed. The indicated discovery is Nell H. Wills and George T. Abell 1 M. E. Hale, located 330 ft. from the south and 1,650 ft. from the west lines of 12-20s-30e.

With the elevation of 3,307 ft., the wildcat topped brown lime at 1,507 ft. and was reported 380 ft. higher, structurally, than Stanolind 1 Zorichak, failure a mile to the northwest, and 320 ft. higher than Culbertson & Irwin 1 Welch, failure 1½ miles to the southeast. The 1 Hale well struck a gas zone in the brown lime at 1,540 ft. and was drilled to 1,560 ft. At a total depth of 1,563 ft. the 7-in. casing was cemented and the well will be completed by perforating the pipe in the gas zone.

Completions for the week in the district were five in Eddy County and four in Lea County. Only two of the five Eddy County completions were producers, while one of Lea County's four completions was a failure and one was a recompleted well.

SOUTHEAST NEW MEXICO COMPLETIONS

(24-hour gages)

Eddy County

Leonard field: Barnsdall 3-B Dodd . . NE SE 14-17-29
Dry, T.D. 3,029 ft.
Jackson field: Aston & Fair 2 Brigham NE SE 31-17-30
Flowed 70 bbl. in 3 hr., ¾-in. choke, shot, 2,868-83 ft.
Shugart field: Carper, Keohane & Saunders 1 Day . . NE NW 3-19-31
Flowed 45 bbl., open tubing, shot, 2,662-78 ft.
Loco Hills field: J. W. Elliott 1 Cannon 4-19-30
Dry, T.D. 3,421 ft.
Wildcat: Ingham 1 Page 15-21-28
Dry, T.D. 2,978 ft.

Lea County

South Eunice field: Cities Service 3-B Closson . . . NW NW 20-22-36
Flowed 152 bbl. in 12 hr., 1,000 gal. acid, 3,760-3,801 ft.
South Maljamar field: J. D. Barefield 2 Walker . . . SW NW 5-18-32
Dry, T.D. 4,332 ft.
Maljamar field: R. W. Fair 2-B Baish 27-17-32
Old well recompleted, 160 bbl. through open 2-in., shot, T.D. 4,100 ft.
Skelly field: Skelly 2 King . . . . . NE NW 4-23-37
Flowed 50 bbl. in 5 hr., open tubing, shot, 3,552-3,706 ft.

SOUTHEAST NEW MEXICO DRILLING REPORT

Chaves County

Roxana 1 Franks . . . . . NW NW 17-9s-25e
16 mi. NE of Roswell, location.
Roxana 1 Maull . . . . . NE NW 11-12s-25e
Material on ground.
H. Steinberger 1 Headley . . . . . NW SW 26-14s-29e
Rigging up cable tools.
Martin 1 Stephens . . . . . NW NE 22-15-29
Old failure drilling deeper, S.D. 2,340 ft.

Dona Ana County

Armstrong 1 Baker . . . . . NW SW 4-23-1
15½-in. at 60 ft.

Eddy County

Dooley & Haynes 1 Martin . . . . . SE NW 9-18-25
Drilling 510 ft.
Knox & Featherstone 1 Hatchett . . . . . SW NE 14-20-26
Drilling 50 ft.
Beddingfield & Walker 1 Seale . . . . . SE SE 10-20-27
Drilling 995 ft.
Talmadge 1 State . . . . . SW NE 24-16-28
Slight show oil 2,505-15 ft., S.D.O. 2,605 ft.
Jones & Yates 1 Everest . . . . . NE SE 15-18-26
Drilling 820 ft.
Trojan 1 Grant . . . . . SW NE 33-20-25
S.D. 1,590 ft.
Shumacher 1 Levers . . . . . NE NE 33-16-29
S.I. 2,875 ft.
M. Yates 1 Williams . . . . . NE NW 25-18-26
Location.
Black & Ratliff 1 Simmons . . . . . SE NW 9-21-25
Cor. S.D.R. 633 ft.
A. & M. Petroleum 2 State . . . . . NW SE 15-21-17
S.D. 350 ft.
Clark & LaNeve 1 Boulter . . . . . SE NW 28-19-27
Prepare to spud.

Lea County

Stanley & Weiner 1 Saunders . . . . . NE NE 20-21-38
Drilling 3,045 ft.
Venture Oil 1 Lowe . . . . . SW SE 26-13s-37e
6,000-ft. test, T.D. 6,000 ft., preparing to drill deeper.
Great Western Prod. 1-D State . . . . . SE SE 30-12-32
Slight show oil and salt water from 3,022-32 ft., T.D. 3,052 ft., 1,500 ft. oil in hole, testing 3,052 ft.

Otero County

R. H. Ernest 1 Located Land Co. . . . . SE SE 20-25-7
S.D. 3,729 ft.

Sierra County

Clyde R. Wofford 1 Graham-State . . . . SW SW 8-14s-2w
Location.

DRILLING REPORT

Childress County

Texas 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur., 7,500-ft. contract, fishing for drill pipe 5,568 ft.

Cottle County

Ramsey Pet. 1 Lynch, SE SW Sec. 66, J. Poitevent Sur., 5,000-ft. test, location.

King County

Superior Oil of Tulsa 1 Martin, Sec. 174, H.&T.C. Sur., drilling 5,650 ft.

Motley County

Humble 1 Matador, Sec. 29, Blk. J, B.S.B.&C.N.G. Sur., drilling 3,490 ft.

Swisher County

Krupp-Flaherty 1 Kleen, Sec. 120, Blk. 10-M, 6,500-ft. test, top salt 1,020 ft., S.D., casing 1,747 ft.

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Oklahoma Fields

(Continued from Page 93)

Osage, S½ S½ SW 3-82-11, T.D. 960 ft., pumped 60 bbl. oil.
East Hominy pool: Skelly 1 Osage, SW SW NW 28-22-9, T.D. 2,163 ft., dry.
Quapaw area: I.T.I.O. 471 Osage, W½ NW NW 32-25-11, T.D. 2,086 ft., gaged 1,500,000 cu. ft. gas.

Pontotoc County

Beebe pool: Hall 4 Summers, NW SW SE 26-5-4, Viola 2,426 ft., dolomite 2,565 ft., shot with 540 qt. at 2,478-2,611 ft., T.D., pumped 40 bbl. oil.
W. B. Pine 3 Jeter, NE SE SW 26-5-4, Viola 2,425 ft., T.D. 2,538 ft., shot with 187 qt. at 2,470-2,535 ft., pumped 39 bbl. oil.
Superior 5 Indian Roy, SE NE NW 36-5-4, dolomite 2,580 ft., shot with 240 qt. at 2,582-2,663 ft., T.D., pumped 140 bbl. oil.
Jesse pool: Thompson 1 Haney, NE SW NW 2-1n-7e, Gilcrease 1,825 ft., T.D. 1,950 ft., dry.

Pottawatomie County

St. Louis district: Smith 1 Lightfoot, SW NE NE 6-7-4, Hunton 3,929 ft., T.D. 3,972 ft., 7-in. casing 3,931 ft., flowed 490 bbl. of 35.2-gravity oil through casing.
Vernie 1 Simms, NW NW SE 16-7-4, old well deepened from 3,980 ft. to 4,242 ft., dry.
Amerada 3 Harrison, SW NW SW 33-7-4, old well deepened from 4,244 ft. to second Wilcox at 4,253 ft., T.D. 4,269 ft., pumped 475 bbl. of 39.3-gravity oil.

Seminole County

Allen area: Magnolia 1 Fleet-Osborne, NW SE NE 26-5-7, old well deepened from 3,942 ft. to Viola lime at 3,979 ft., T.D. 3,989 ft., acidized with 1,500 gal., pumped 90 bbl. oil.
Little River area: Newsom 1-B Oakes, SE SE SW 16-7-6, Wilcox 4,401 ft., T.D. 4,416 ft., dry.

WILDCAT DRILLING REPORT

Caddo County

Texas 1 Smith . . . . . C NE NW 2-5n-12w
Set 7-in. 2,544 ft., run survey, off 23° 3,229 ft., P.B. to 2,540 ft., drilling below 3,062 ft. in Viola.
John Graham 1 Cooke . . . . . NE SE NE 35-5n-9w
Rotary, spudded.

Creek County

Shell 1 Lynihan.....NE SE NE 31-15n-7e
Oswego 2,789 ft., Prue 2,853 ft., show oil Skinner 2,960 ft., drilling 3,444 ft.
Irvin Drlg. 1 Bailey.....SE NE SE 1-18n-9e
Rigging up machine.

Grady County

Murry & Murry 1 A. Ramsey.....SE SE NE 31-5n-8w
Pits.

Hughes County

Don Feagin et al 1 Pulks.....NE NW SW 8-9n-11e
Drilling 478 ft.

Jackson County

Gene R. Burke 1 Estes.....SW SW NE 34-3n-19w
T.D. 600 ft., running 8¼-in.
Mutual Oil 1 Caves.....CEL NE 36-4n-21w
Drilling 500 ft.

Jefferson County

Arrow Drlg. 1 Stallings.....SW SW SW 18-3s-4w
Drilling 800 ft.

Kay County

Union Nat. O. & G. 1 S. Long..NW NW NW 29-28n-1e
Building rig.
Earl Williams 1 Trueblood.....SE SE 25-25n-1w
Foraker 972 ft., T.D. 1,046 ft., in Foraker.
Zephyr Drilling 1 State.....NE NW SW 13-26n-2w
Wilcox 3,910 ft., T.D. 3,928 ft. in Wilcox.
Amer & Wilson 1 Deimar.....NE NW SW 28-27n-1w
Drilling 2,450 ft.

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but just as valuable to the oil producer and refiner seeking wear and corrosion resistance

THE hard, diamond-like crystals of patented chromium-boride ($Cr B_2$), distributed throughout all COLMONOY hard-facing materials, provide a high degree of resistance to all kinds of wear and corrosion. COLMONOY is highly efficient in protecting such wearing parts as acid pump plungers, pump sleeves, wash pipes and other parts, which wear three or four times as long when hard-surfaced with COLMONOY.

COLMONOY Increased Life of Pump Rings and Liners from 1400 to 7238 Hours

One enthusiastic user writes that he uses COLMONOY for pump rings, with steel expanders, and liners of COLMONCY. The mixture handled consisted of 50% crude oil, 46% salt water and 4% sludge, sand and other solids.

The previously used bronze and cast iron alloy liners and rings had to be repaired about every 1400 hours. The last completed record on the COLMONOY equipped pump was 7238 hours of operation.

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Fred Elders 1 Voehl.....SE SE NW 34-27n-2w
Drilling 1,200 ft.

Kiowa County

Southwestern Oklahoma O. & G. 2 Foltz.....NW SE SE 10-6n-18w
Drilling 1,904 ft.

Lincoln County

Wilcox O. & G. 1 Murphy.....NE SE SW 7-14n-6e
Pumped 9 bbl. oil and 13 bbl. water per day, testing.
Mason & Stuart 1 Crane.....SW NE SE 7-12n-5e
Set 10-in. 116 ft., moving in tools.

Logan County

H. & H. 1 Anderson.....SW SW NW 8-15n-1e
Set 12-in. at 80 ft., moving in machine to drill water well.

Love County

Colvin & Hicks 2 Westheimer & Daube.....W½ SE SW 27-6s-2e
Showing of oil 951-66 ft., 1,007-11 ft., 1,192-1,225 ft., 1,239-50 ft., sands and sandy shales, drilling 1,441 ft.

Okfuskee County

W. O. Carter 1 Bucco.....NE NE SE 20-10n-12e
Set 12-in. 77 ft., drilling 290 ft.
W. B. Pine 1 Armstrong.....SE SE NE 3-11n-10e
Drilled plug, slight show oil and gas, cleaning out.
W. L. Graham et al 1 McLain....SE SW SW 7-12n-7e
Drilled plug, 1,700 ft. salt water in 12 hr., S.D.
J. O. Haynes Drlg. et al 1 McKernan.....E½ SE NW 25-12n-8e
Mayes 3,900 ft., Weldon 4,025 ft., Woodford 4,035 ft., Hunton 4,050 ft., slight show oil 4,057-74 ft., S.D.
Vierson & F. Phillips 1 Leonard SW SE NW 11-13n-7e
Location.

Oklahoma County

Dorr & Ragsdale 1 Riley.....NE NE SE 34-13n-1e
Rig on ground.

Osage County

Millard & Vance 1 Osage.....SE SE SE 5-25n-10e
Machine.
Peters & Norbia 15 Osage..... SE NW SW 16-22n-9e
Set 8-in. 2,273 ft., Chattanooga 2,300 ft., Mississippi lime 2,307 ft., drilling 2,430 ft.

Payne County

Wood Oil and Link Oil 1 Krolop SW SW SE 14-17n-5e
Wheeler 3,030-52 ft., grey lime 3,071-3,120 ft., sand 3,186-96 ft., lime 3,217-19 ft., lime 3,223-27 ft., sandy lime 3,285-3,320 ft., sand 3,425-38 ft., hard lime 3,505-06 ft., lime 3,540-42 ft., S.D. 3,570 ft.
H. & H. Oil 1 Linsemeyer .... SE SE SW 3-18n-4e
Mississippi lime 3,800 ft., Chattanooga 3,890 ft., Misener 3,930 ft., slight show oil, fishing 3,956 ft.

Pontotoc County

Crescent Oil 2 Thompson.... NE NW-SW 29-3n-4e
Set 6-in. 1,320 ft., S.D. 1,620 ft.
Mid-Continent 1 Porter.....NW SW NW 12-7n-7e
T.D. 4,485 ft., P.B. to 4,167 ft., trying to drill by.

Stephens County

Grimes & Vaughn 1-A Baker... SE NW NW 35-2s-6w
Sand 1,101-24 ft. oil show, drilling 1,400 ft.
Brown et al 1 Dilly .....C SE SE 6-3s-5w
Show oil 1,113-25 ft., sandy lime show oil 1,255-60 ft., drilling 1,486 ft.
Sun Oil 1 Bouing .....NE SW NW 9-1s-4w
Rigging rotary tools.
Halliburton Oil Well Co. 1 fee.....SE SW SW 5-1s-7w
Rigging tools.

Tillman County

Cline et al 1 Staley ..... SE SE NW 10-2s-19w
Viola 6,510 ft., drilling 6,645 ft.
Price et al 1 Crow.....NW NW NE 24-2s-15w
Drilling 1,320 ft.
Gulf 1 Grace Hess.....C NE NW 33-23n-13w
Building derrick.

Kansas Fields

(Continued from Page 89)

Russell County

Jones & Shelburne 1 Lewis.... SW SW NE 28-14s-12w
Fort Riley 1,537 ft., Neva 1,885 ft., set 8-in. 1,975 ft., drilling below 2,100 ft.
Pryor & Lockhart 1 Borrell .. C N½ NE SE 3-15s-11w
Set 15-in. 347 ft., cleaning out.
J. R. Robertson et al 1 Radke . C S½ SE SW 18-15s-14w
Fort Riley 1,900 ft., set 8-in. 2,273 ft., fishing 2,345 ft.

Stafford County

W.W.W. Drlg. 1 Boyd ..... C W½ SW SW 4-21s-14w
T.D. 3,654 ft., P.B. to 3,408 ft., cleaning out.
Selby O. & G. 1 Blackburn .... CEL SE NE 13-24s-12w
Cemented 10-in. 250 ft., anhydrite 595 ft., drilling below 1,745 ft.

Forest City Basin

ST. JOSEPH, Mo., Sept. 23.—Activity in the Falls City area of Richardson County, Nebraska, is approaching the boom stage for the first time since oil was discovered November 1, 1939. With oil beginning to move to the markets, operators are making offset locations and preparing to start work. Pawnee Royalty Co., pool opener, is selling some of its oil to Searle Petroleum Co., Omaha, and some to Northwestern Petroleum Co., St. Paul. Harry Harper is selling to the Purzone refinery at Minneapolis, and R. L. Campbell is selling to Stanolind Crude Oil Purchasing Co. Daily average production from four wells in the week ending September 21 was 228 bbl., with 212 bbl. average the preceding week.

The pool apparently was extended ¾ mile south, to within 1¾ miles of the Brown County, Kansas, line, at R. L. Campbell 2 Schock, NW NE 29-1n-16e. It found Hunton lime at 2,336 ft. and had saturation in a 4-ft. core. The 1 Schock in SW SE NE 20-1n-16e is a producing well.

Two producers were completed in Richardson County and a failure was recorded in Nemaha County.

E. J. Shaffer 1 Sandrock, SW NW 20-1n-16e, was plugged back to the Hunton zone when Viola lime failed to produce, gun-perforated casing, acidized with 2,000 gal., flowed 52 bbl. of oil the first hour, averaged 38 bbl. an hour for 6 hours, and was shut in. Gravity of the oil was 31.5°. Hunton lime was topped at 2,229 ft., Viola 2,797 ft., T.D. 3,873 ft.

Skelly Oil Co. 1 Wallraff, C 20-1n-16e, topped Hunton at 2,217 ft., T.D. 2,259 ft., acidized with 2,000 gal., and flowed 160 bbl. daily; reacidized with 3,000 gal., swabbed 364 bbl. in 14 hours, flowed 45 bbl. in 3 hours.

In Nemaha County, Sonken-Galamba et al 1 Lehr, C SE SE 25-5-14, lost hole at total depth of 1,357 ft. and was reported abandoned.

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ABERCROMBIE PRESSURE GAUGE

E. W. Schrock 1 Rogge, NW NW NW 17-5n-13e, in Nemaha County, was reported to have had a showing of oil in Hunton lime at 2,456 ft., the lime having been topped at 2,304 ft., total depth 2,470 ft. Seven-inch casing was set at 2,464 ft.

Missouri Activity

Brin & Nathan have decided to drill ahead at 1 Decker, C NW NW 1-61n-38w, Holt County, Missouri, after trying to make it produce from Hunton lime for several weeks, it was reported.

Skelly Oil Co. 1 Leamer, C SW NE 31-55-28w, Polo pool, Caldwell County, had sand at 361-84 ft., T.D., and gaged 9,000,000 cu. ft. of gas, completed. Chillicothe Synd. 1 Linton, W½ SE 15-56-23w, Livingston County, was completed in Arbuckle lime at 1,139-1,213 ft.

Southwest Texas Fields

(Continued from Page 88)

Victoria County

Bloomington field: Texas Gulf 2 Linville, 15 bbl. distillate, ⅛-in. choke, T.D. 6,406 ft.
Heyser field: Gulf 40-B Traylor, 97 bbl., 3/32-in. choke, sand 5,482-92 ft.
Wildcat: Frank Williams 1 Wray, dry 4,725 ft.

LAREDO DISTRICT

Brooks County

Kelsey field: Humble 60 McGill, 104 bbl., ⅛-in. choke, T.D. 4,741 ft.
Wildcat: H. H. Howell 1 Cantu, dry 7,518 ft.

Duval County

Casa Blanca field: Adelon Oil Corp. 5-C Martin, dry 1,187 ft.
Cedro Hill field: Magnolia 2 Duval County Ranch Co., dry 1,443 ft.
Magnolia 11 Duval County Ranch Co., 17 bbl., ¼-in. choke, perf. casing 1,467-70 ft., T.D. 1,471 ft.
Magnolia 12 Duval County Ranch Co., 25 bbl., ⅜-in. choke, sand 1,464-68 ft.
Lundell field: Government Wells Oil Co. 42 Lundell, 35 bbl., jetting, sand 1,509-18 ft.
Magnolia 1 Duval County Ranch Co., dry 2,185 ft.
Wildcats: Hubble Drilling Co. 1 Farias, dry 2,503 ft.
Magnolia 1 Whitecotton, dry 1,797 ft.

Jim Hogg County

Colorado field: Humble 19 King ranch, 180 bbl., 7/32-in. choke, T.D. 2,989 ft.
V. F. Neuhaus 1-G Trevino, 225 bbl., ¼-in. choke, sand 2,931-49 ft.
Manila field: Bridwell Employees Oil Co. 1 Wood, dry 2,631 ft.

Live Oak County

White Creek field: Coquat, Holland et al 1 Cox, 184 bbl., pumping, perf. casing 1,285-91 ft. and 1,296-1,306 ft., T.D. 1,316 ft.
Wildcat: Adams & Lyle 1 Alamo Lumber Co., dry 1,512 ft.

Starr County

Rincon field: W. R. Davis 5-A Davenport, 202 bbl., 7/32-in. choke, perf. casing 3,754-78 ft., T.D. 4,280 ft.

Webb County

Glen field: Holland & Simmons 1-B Bruni, 108 bbl., pumping, sand 2,180-84 ft.
Holland & Simmons 2-B Bruni, 125 bbl., pumping, sand 2,181-85 ft.
Holland & Simmons 3-B Bruni, 132 bbl., pumping, sand 2,179½-83½ ft.
House & Campbell 1 Bruni, 142 bbl., pumping, sand 2,164½-74 ft.
Pitkin & Goldston 3 Bruni, 55 bbl., jetting, sand 2,190-95½ ft.
Pitkin & Goldston 4 Bruni, 63 bbl., jetting, sand 2,172-81 ft.
Pitkin & Goldston 5 Bruni, dry 2,207 ft.
Bob Rose 1 Yeager-Stroman, dry 2,253 ft.
Transwestern 7-A Bruni, 83 bbl., pumping, sand 2,171-81 ft.
Transwestern 8-A Bruni, 99 bbl., pumping, sand 2,157-69½ ft.
Wildcats: Glenda Oil Co. 1-B Saldivar, dry 1,150 ft.
Glenda Oil Co. 1-B Bruni, dry 1,178 ft.

SAN ANTONIO DISTRICT

Atascosa County

Wildcat: Walton Drilling Co. 1 Tuerpe, dry 2,830 ft.

Bastrop County

Wildcat: Ogden & Riddle 2-B Riddle, dry 2,017 ft.

Kimble County

Wildcat: Schwab, Carlyle & Auld 1 Baker, 66,000 cu. ft. gas, open flow, 50-qt. shot 1,390-1,415 ft., T.D. 2,626 ft.

Medina County

Wildcat: H. Crawford 1 Loangfeld, dry 623 ft.

Milam County

Rockdale field: Harry Moody 2 fee, 3 bbl., pumping, sand 778-80 ft., T.D. 784 ft.

SOUTHWEST TEXAS DRILLING REPORT

Bee County

Earl Rowe et al 1 Meyer, NE of Tynan, H. Williams Sur., T.D. 5,110 ft., S.D.

Brooks County

Sun 1 Boedeker, C.C.S.D.&R.G.N.G. Sur. 16, drilling shale and sand 7,434 ft.

Calhoun County

Henshaw Brothers 1 McKamey, 9 mi. W of Port Lavaca, Thatcher and Leonard Sur., drilling shale 2,700 ft.

Duval County

Gilcrease 1-B Salazar, C. Alanis Sur. 3, coring 1,615 ft.
Humble 1-B Muil, NE of Realitos, Diego Hinojosa Sur., T.D. 5,310 ft., dry.

Hidalgo County

Humble 1 American Life Insurance Co., N of Hargill, fishing 5,416 ft.

Jim Wells County

W. R. Quin 1 Schumacher, J. Poitevent Sur., T.D. 5,204 ft., dry.

Live Oak County

Clark Drilling Co. 1 Odome, R. Everett Sur., drilling shale 1,150 ft.
Hundred and One Oil Co. 1 Benham, L. M. Hitchcock Sur., T.D. 2,025 ft., S.D.

San Patricio County

Plymouth 1 Hall, outpost test NE of East White Point field, drilling shale 3,227 ft.

Starr County

Texas 1 Davenport, N Rincon field, coring sand 5,010 ft.

Webb County

Tide Water 8 Bruni, Wilcox test, Bruni field, drilling sand and shale 10,265 ft.

Zapata County

Dulup Oil Co. 3 Garza, Comitas grant, drilling shale 1,715 ft.

Louisiana Gulf Coast

(Continued from Page 91)

Crowley prospect, Acadia Parish, is reported to be flowing 110 bbl. of fluid per day through a ⅛-in. choke of which 2½ per cent is salt water. The well was originally completed for an initial production of 33 bbl. of pipe-line oil per hour from sand topped at 7,602 ft. The same company's 1 Boyd Finch, the first well drilled on the prospect and just west of 1 Leger, flowed pipe-line oil for several days but was finally abandoned due to salt-water encroachment.

Location for an interesting wildcat was announced for the Lowry area, northwest of the Grand Lake field in Cameron Parish, by Lisbon-Iberia Oil Co., which is dredging a canal for 1 Calcasieu National Bank in 19-12s-4w.

The producing limits of the Neale field, Beauregard Parish, were defined to the east as Martex Oil Co. 1 Musser Davis Lumber Co. was abandoned at a total depth of 8,825 ft., with no shows reported. The well is more than a mile east of production in 30-3s-10e. Atlantic Refining Co. has three active operations, one being an important southwest outpost while the others are inside operations.

LOUISIANA GULF COAST COMPLETIONS

Beauregard Parish

Neale field: Atlantic 2 Spiers, 460 bbl., ¼-in. choke, perf. casing 8,360-77 ft., T.D. 8,433 ft.
Atlantic 2 Whitmer, 462 bbl., ¼-in. choke, top sand 8,359 ft., T.D. 8,427 ft.
Martex 1 Musser Davis, dry, T.D. 8,828 ft.

Iberville Parish

Whitecastle field: Shell 7 Wilberts, 384 bbl., 16/64-in. choke, perf. casing 6,285-90 ft., T.D. 6,600 ft.

East Baton Rouge Parish

University field: Titanic 1 Duplantier, 290 bbl., 10/64-in. choke, perf. casing 6,763-70 ft., T.D. 7,215 ft.

Jefferson Parish

Lafitte field: Texas 7 Marrero, dry, T.D. 5,619 ft.

La Fourche Parish

Golden Meadow field: Berkshire 1 Authement, 384 bbl., 12/64-in. choke, perf. casing 10,368-75 ft., T.D. 10,450 ft.
O'Dwyer Oil 6 La Fourche Realty Co., 150 bbl. fluid, 10 per cent salt water, ¼-in. choke, perf. casing 5,160-70 ft., T.D. 5,175 ft.
Texas 17 L. L. & E. Golden Meadow, 184 bbl., 5/32-in. choke, top sand 5,654 ft., T.D. 5,660 ft.
Tippett Drilling Co. 1 Gracien, 170 bbl., 9/64-in. choke, perf. casing 5,435-45 ft., T.D. 5,480 ft.
Lake Long field: Fohs Oil Co. 12 State, 200 bbl., ¼-in. choke, perf. casing 9,348-52 ft., T.D. 9,364 ft.
Valentine field: William Helis 5 Valentine, dry, T.D. 7,845 ft.

Plaquemines Parish

Potash field: Humble 45 Orleans Levee Board, 389 bbl., 12/64-in. choke, T.D. 8,800 ft.

St. Martin Parish

Anse La Butte field: R. P. Phillips 1 Broussard, dry, T.D. 2,914 ft.
Superior 1 Rycade, dry, T.D. 7,031 ft.

St. Mary Parish

Bateman Lake field: Texas 5 Wax Bayou, gas well, perf. casing 10,870-80 ft., T.D. 10,944 ft.
Texas 1 Landers, gas well, perf. casing 10,900-24 ft., T.D. 11,487 ft.
Horseshoe Bayou field: Texas 4 St. Mary Land Co., 356 bbl., 10/64-in. choke, sand 10,787-10,808 ft., T.D. 10,880 ft.

Terrebonne Parish

Bay St. Elaine field: Jefferson Lake Sulphur Co. 3 Salt Dome Royalties Co., dry, T.D. 974 ft.

LOUISIANA GULF COAST DRILLING REPORT

Ascension Parish

Humble 30 Community, Darrow dome, drilling shale 4,710 ft.

Cameron Parish

Superior 3 State, Calcasieu Lake dome, drilling shale 13,076 ft.
Superior 4 Vincent, West Hackberry dome, drilling shale 7,312 ft.

Iberia Parish

Texas 4-B State, Vermilion Bay field, drilling shale 10,475 ft.

Iberville Parish

Superior 4 Schwing, Bayou Blue field, T.D. 6,441 ft., running electrical log.

Jefferson Parish

Shell 1 State, Bayou des Illettes, 27-20s-24e, coring shale 11,363 ft.

La Fourche Parish

Tide Water 2 Delta Farms, SW of Delta Farms discovery, T.D. 11,941 ft., fishing.

Livingston Parish

Humble 1-B Great Southern Lumber Co., 21-7s-4e, drilling shale 4,345 ft.

Plaquemines Parish

Gulf 1 State, Black Bayou prospect, drilling shale 8,356 ft.

St. James Parish

Shell 1 Federal Land Bank, La Pice field, drilling sandy shale 9,334 ft.

St. John the Baptist Parish

Pan American 2 Mills, La Place field, drilling shale and lime 7,190 ft.

St. Landry Parish

J. Graham 1 Sibille, 15-8s-3e, drilling shale 1,210 ft.

St. Martin Parish

Stanolind 1 Dupuis, Anse La Butte dome, coring shale 4,520 ft.
Shell 2 Iberville Land Co., Happytown field, drilling shale 9,831 ft.
Shell 1 Parish School Board, West Lake Verret area, T.D. 7,396 ft., running electrical survey.

Terrebonne Parish

Texas 5 State, Coon Point prospect, drilling shale and lime 9,545 ft.

Vermilion Parish

Fohs Oil Co. 1 Mulvey Irrigation, southwest outpost test Gueydan field, 34-11s-1w, drilling shale and lime 8,856 ft.

Rocky Mountain Area

(Continued from Page 84)

gas well and one dry hole, and three new operations.

A. E. Crumley & Son 20 Fryberger, SW SW NE 24-35n-3w, pumped 216 bbl. of oil and 10 bbl. of water per day from the lime at 1,611 ft., total depth, after acidizing with 1,000 gal. The contact at 1,585 ft. was dry.

Twinfields 2 Government, SE SE SW 21-35n-3w, could not shut off water at 1,796 ft., total depth, after plugging back to the contact at 1,746-54 ft., and plugged it.

McKnight & Stock 3 State, NE NW NW 16-35n-2w, reported a completion last week, increased from 60 to 100 bbl. a day on the pump.

Casper T. Olen 10 Engermoen, NE SW NW 14-35n-3w, pumped 170 bbl. the first 24 hours from the contact at 1,557-67 ft. after acidizing with 500 gal.

Consolidated Gas 1 Lyon, CNL NE NE 4-32n-2w, was completed at 1,590 ft. for 800,000 cu. ft. of gas from the Sunburst at 1,502-29 ft.

Montana-Dakota Utilities 315 Merchants Trust.....SW SE 25-34n-1w
Drilling 210 ft. First report.
Hannah-Porter 1 Williams.....SW NE SE 35-33n-2w
Drilling 600 ft. First report.
Fulton-Commonwealth 5 Thompson.....NE SW NE 28-35n-3w
Drilling 100 ft. First report.
Prevoll & Shay 1 Government.....SW NW 15-35n-3w
Drilling 1,543 ft., top Sunburst 1,532 ft., 2,700,000 cu. ft. gas.
H. F. Patterson 1 Government....NE SE SE 15-35n-3w
Location.
Frank P. Walsh 1 Mowat.....SW NW SE 7-33n-2e
Drilling 1,188 ft. in Colorado shale, est. 4,000,000 cu. ft. gas at 1,185 ft.
Vander Pas-Thompson 3 Thumm CSL NW NW 33-35n-3w
T.D. 1,711 ft., contact 1,706 ft., acidized 1,000 gal., testing.
Aaron A. Welch 4 Zachor.....CSL NW NE 29-35n-1w
S.D. 1,525 ft.
Montana Gas 1-X Nelson.....SE NE 12-35n-1e
Drilling 1,440 ft., 8-in. at 1,131 ft., 7-in. at 1,335 ft.
Twinfields Oil 1-A Government NW NW NW 28-35n-3w
T.D. 1,785 ft., contact 1,783 ft., acidized 500 gal., testing.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty 2 Pajarito.....22-9n-1e
Cleaning out to resume at 2,000 ft., contract depth 3,500 ft.

McKinley County

Petroleum Products 11 Hospah..SE NW SW 1-17n-9w
Drilling below 1,500 ft.
Teague, Greer 1 Santa Fe.....33-18n-10w
Drilling 1,450 ft.

San Juan County

Red Cactus 1 Tribal.....SE SE SE 35-29n-18w
Spudding with cable tools.
Art Green 1 Stark.....NE NE NE 28-29n-12w
S.D. 484 ft. Aztec district.
Pete Siemens 1 Medina.....NE NE NE 33-29n-12w
Drilling 500 ft.
Southern Union 1 Government..NW SW SE 13-29n-12w
Drilling below 1,000 ft.
Claude Carroll 1 Cornell.....SW NE 11-29n-12w
Drilling 1,895 ft. in sand, est. 1,000,000 cu. ft. gas at 1,885 ft.
Kutz 1 Government.....NW NW 28-28n-10w
Drilling 1,650 ft.

By
GEORGE WEBER

Lower Wilcox Shows Up Well In La Salle Parish Wildcat

SHREVEPORT, La., Sept. 23.—Scattered tests throughout the Ark-La-Tex area attracted attention during the past week. In the Jena area of La Salle Parish, south of Olla, indications of a wildcat completion were seen as a second wildcat failed to find production in the Wilcox. The Joaquin extension test in De Soto Parish also appeared to be a failure in the lower Glen Rose gas-condensate horizon proving an unexpected disappointment.

Across the state line in Texas another Trinity wildcat was begun in Shelby County after failure of the current one, and to the north in Harrison County, a wildcat inactive for several months, was completed for a small producer in the Tokio sand.

Arkansas remains unusually quiet. McKamie's second test was brought in for a good producer with a thick porous Smackover lime section. Nick Springs, now prorated, is one of the most active fields in Arkansas at present.

La Salle Activity

The H. L. Hunt 1-A Goodpine, Jena wildcat in 10-7-3e, about 18 miles southeast of Olla, showed further indications that it would make a well, as the operator staked an offset test. The wildcat flowed 30 bbl. with 5,000,000 cu. ft. of gas after perforating in the Wilcox section at 3,480-90 ft., making 41-gravity oil but the operator squeezed off the perforations to reperforate in an effort to cut down the gas-oil ratio. A west offset to 1-A Goodpine was staked, and it is expected the operator will move to it when the first test is completed as an oiler. Production is found in sands ranging from 900 to 1,000 ft. in the Wilcox formation, the deepest of which are currently being tested.

To the southwest, Atlantic Refining Co. has failed to pick up shows of oil or gas in the Wilcox, which was topped at 2,490 ft. The test is now below 3,593 ft. in salt-water sand and unless production is found within the next 500 to 1,000 ft. the test is expected to be abandoned.

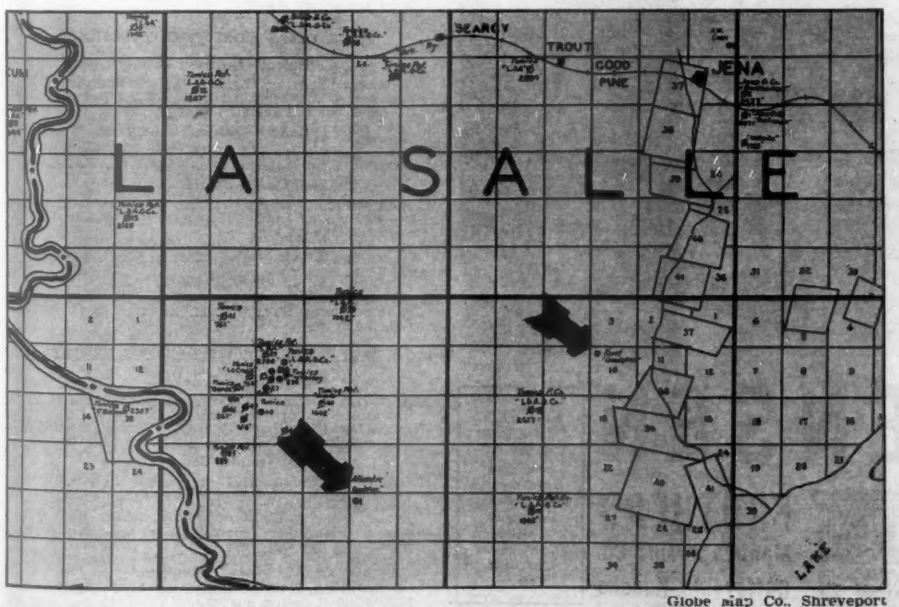
The Peterson Petroleum Corp. 1 Tremont, a wildcat located in 25-9-2e, about 5 miles south of the Olla field, was completed this week for a gasser, making an estimated 12,000,000 cu. ft. after squeezing former perforations and reshooting at 3,162-64 ft. The wildcat previously showed a hole full of oil after perforating at 3,036-38 ft., but pumped off without flowing and finally went to salt water. The test showed alternating gas and oil sands, typical of the Wilcox in that area, where the only production that far below the top of the formation exists to date.

The O. K. Allen 1 Breedlove, a wildcat 2½ miles northeast of Olla production, is preparing for another test of the Wilcox sands after blowing out several days ago at 2,214-19 ft. The test was killed and plugged back to 2,175 ft. and the operator is expected to perforate and test other sand possibilities, in an effort to make an oil well.

The sum of all the La Salle Parish work at present points to a major drilling campaign, both of wildcat and proven nature. With Olla proper extended over an actual proven area of 3,200 acres and as yet undefined in any direction, with two gas strikes north of Olla, one northeast of the field, and one due south, in addition to the Jena strike, the Wilcox possibilities for extensive oil and gas production in La Salle Parish at present are very bright. The relatively shallow depths to which tests must go for a penetration of the Wilcox will spur development. Although much of the area is closely held, particularly around Olla, the unprecedented leasing play in the parish during the past few weeks points to drilling of several rank wildcats in the trend. Previous tests drilled in the area had drilled only as far as the top of the Wilcox where production is most generally found, but the unexpected discovery of deeper oil and gas sands in the formation has touched off the most active drilling campaign in the district.

Joaquin

The failure of Union Producing 1-B Garrett to find gas-condensate saturation in De Soto Parish across the state line from the Joaquin field in Shelby County, Texas, was a surprise to many geologists and operators. The company recently brought in 1-A Garrett to the southwest of the present test, showing a potential production of 144,000,000 cu. ft. of gas. The location of the current wildcat between the field proper and the Hunter Co. 1 Parker gave it a good possibility for finding production. The Hunter Co. test, drilled in 1938, was completed in the lower Glen Rose lime for 4,250,000 cu. ft. of gas at 4,953-5,085 ft. which corresponds to the Joaquin producing section. The geophysical picture of the area indicated that the Hunter well was located on the same structure, but apparent failure of the Union 1-B Garrett indicates that it may be located in a tight-lime area. The Union test was last reported below 5,329 ft., having topped the massive anhydrite at 4,587 ft. The current test was running about 100 ft. low on the base of the massive in comparison with 1-A Garrett, recently completed.



Globe Map Co., Shreveport

The Jena district of La Salle Parish shows one probable field discovery and one failure this week. The H. L. Hunt 1-A Goodpine was squeezed after making 30 bbl. of oil and 5,000,000 cu. ft. of gas and an oil completion is expected shortly. Atlantic 1-B Goodpine is apparently a failure in the Wilcox, with no shows

Estimated Daily Production

Estimated daily gross production week ended September 20:

NORTH LOUISIANA

	Bbls.
Bellevue	470
Caddo, light	5,850
Caddo, heavy	2,325
Converse	505
Cotton Valley	*13,500
Cross Lake	3,515
De Soto and Red River	1,050
Elm Grove	355
Haynesville	2,710
Holly	85
Homer	2,820
Lisbon	3,500
Olla	3,910
Pleasant Hill	85
Rodessa	17,945
Sarepta-Carterville	†255
Sligo	2,535
Sugar Creek	20
Urania	2,425
Zwolle	1,630
Total North Louisiana	65,490
Rodessa, Texas	16,260

SOUTH ARKANSAS

Atlanta	2,400
Big Creek	105
Buckner	1,995
Champagnolle	1,160
Dorcheat	1,070
El Dorado	1,650
Fouke	270
Lewisville	510
Lisbon	215
Magnolia	21,500
McKamie	300
Miller County	350
Nevada	575
Nick Springs	525
Rodessa	1,830
Schuler	18,500
Smackover, light	1,640
Smackover, heavy	13,575
Stephens	525
Troy	1,235
Urbana	1,750
Village	910
Total South Arkansas	72,550

*3,800 bbl. is distillate. †40 bbl. is distillate.

Conner Test

In Caddo Parish near Spring Ridge, J. M. Conner completed the wildcat, 1-A Williams, for a small gas well making 279,000 cu. ft. after failing to bring in commercial oil production. The test, plugged back from 6,500 ft. to 5,100 ft., pumped for several days showing 1 per cent 39-gravity oil and the remainder salt water.

Claiborne Parish

The several interesting tests drilling in Claiborne Parish continue active, with one of particular interest this week. V. A. Hardin 1 Valentine showed oil in cuttings at 5,324-30 ft. and a core was taken at 5,330-40 ft. Recovery was 1 in. oil sand, 11 in. black shale, 1 ft. saturated oil sand, 1 ft. lime, and 1 ft. oil sand. The test is drilling ahead below 5,571 ft. It is located southwest of Lisbon and due west of the Sugar Creek field.

NORTH LOUISIANA COMPLETIONS

Sligo—Bossier Parish

Triangle Drilling Co. 4-A R. O. Roy, SE SW 18-17-11, 175 bbl., ¼-in. choke, T.P. 50 lb., C.P. 350 lb., lower Glen Rose.

Bisteneau—Bienville Parish

Union 1 Tooke unit, NW SW SE 10-16-10, est. 50,000,-

000 cu. ft. gas, perf. 5,186-5,250 ft. and 5,266-78 ft., lower Glen Rose sand, acidized with 5,000 gal., T.D. 5,346 ft.

Wildcat—Caddo Parish

J. M. Conner 1-A Williams, SW SE SE 2-15-15, 279,000 cu. ft. gas, old T.D. 6,500 ft., P.B. to 5,100 ft., perf. 5,120-28 ft.

Caddo—Caddo Parish

Lloyd A. Farr 7 Stiles, SE NW SE 17-21-16, pumping 20 bbl., T.D. 1,028 ft.
W. B. Johnson Drilling Co. 4 Stiles, NE NW SW 22-21-16, T.D. 2,414 ft., dry.
James E. Kemp 1 Caldwell, SE SE NW 18-21-15, pumping 10 bbl., 4,000 gal. acid, T.D. 1,780 ft.
Magnolia 25 Doan-Thigpen, C N½ 6-20-15, flowed 50 bbl., 3,000 gal. acid, P.D. 1,505 ft.
R. C. McElmury 1 Files, SW 32-21-15, pumping 100 bbl., 4,000 gal. acid, T.D. 1,555 ft.
C. L. Oblinger 1 Land Co., 3-20-16, dry, T.D. 1,650 ft.

Olla—La Salle Parish

Arkansas Fuel 1-A T. A. Hopkins, NE SW 12-10-2e, 120 bbl., 5 per cent salt water, 12/64-in. choke, T.P. 60 lb., C.P. 410 lb., perf. 2,211-15 ft. Wilcox, T.D. 2,217 ft.
Peterson Petroleum Corp. 1 Tremont Lumber Co., NE SW 25-9-2e, 12,000,000 cu. ft. gas, R.P. 1,350 lb., old T.D. 4,020 ft., 7-in. casing 3,286 ft., reperf. casing 3,162-64 ft., Wilcox.
Placid 28 Louisiana Central, SW NW 30-10-3, 120 bbl., 10 per cent b.s. and w., 20/64-in. choke, T.P. 30 lb., C.P. 375 lb., perf. 2,226-36 ft., T.D. 2,415 ft., Wilcox sand.
Placid 32 Louisiana Central, NE SE 25-10-2, 144 bbl., 4 per cent b.s. and w., 20/64-in. choke, T.P. 50 lb., C.P. 340 lb., perf. casing 2,242-52 ft., T.D. 2,425 ft., Wilcox sand.
Placid 34 Louisiana Central, SE SE 25-10-2, 144 bbl., 12 per cent b.s. and w., 22/64-in. choke, T.P. 40 lb., C.P. 280 lb., 7-in. casing 2,410 ft., perf. 2,243-52 ft., Wilcox sand, T.D. 2,410 ft.
Placid 43 Louisiana Central, SE NW 7-10-3, 120 bbl., 10 per cent b.s. and w., 12/64-in. choke, T.P. 20 lb., C.P. 200 lb., 7-in. casing 2,260 ft., perf. 2,178-90 ft. and 2,198-2,210 ft., Wilcox sand, T.D. 2,383 ft.

Monroe—Union Parish

Noe-Woods Corp. 2 Dhu Thompson, 29-21-3e, 1,000,000 cu. ft. gas, R.P. 995 lb., 7-in. casing 2,080 ft., T.D. 2,200 ft.

Cotton Valley—Webster Parish

Hunt Oil Co. 1 Meyer, NE NE SE 31-21-10, location abandoned.

NORTH LOUISIANA FIRST REPORTS

Bellevue—Bossier Parish

E. A. Jacobson 1 Hammett, SW NW SW 24-19-11.

Sligo—Bossier Parish

Triangle Drilling Co. 5-A R. O. Roy, NW NW 18-17-11.

Caddo—Caddo Parish

Davis & Hart 3 Muslow, NE SW NE 5-20-15.
W. B. Johnson Drilling Co. 3 Stiles, SW NW SW 22-21-16.
W. B. Johnson Drilling Co. 4 Stiles, NE NW SW 22-21-16.
W. B. Johnson Drilling Co. 5 Stiles, NW NW SW 22-21-16.
Juan & McFatrick 3 Hobbs, SE NE NW 28-21-15.
C. C. Lowery 1-B Collins, NE NW SE 7-20-15.
McClenaghan et al 1 Sandschumacher, NE SW SW 18-21-15.

Wildcat—Caldwell Parish

Placid Oil Co. 1 Cross, SE SE 18-11-3e.

Sugar Creek—Claiborne Parish

Sugar Creek Syndicate 2 Robinson, SW NW SW 33-20-5w.

Wildcat—La Salle Parish

H. L. Hunt 2-A Goodpine, SE NE 9-7n-3e.
Peterson Petroleum Corp. 2 Tremont, SE NW 25-9n-2e.

Olla—La Salle Parish

Placid 45 Louisiana Centrol, NE SW 19-10-3e.
Placid 46 Louisiana Central, SW NW 7-10-3e.

NORTH LOUISIANA DRILLING REPORT

Bossier Parish

H. M. Harrell et al 1 Porter, SE NW NE 20-17-11, running electrical survey, T.D. 4,300 ft.
L. K. McGuffin 1 Tomlinson, SW NW SE 16-18-11, S.D. 1,220 ft.
Roy L. Reese et al 1 Bellevue Land Co., SW SW NE 27-20-11, S.D. 3,035 ft.

Caddo Parish

R. W. Crosby 1 W. E. Glassell, NW SW NE 11-19-15, drilling 1,550 ft.
J. M. Forgetson 1 Roberts, SE SE NW 10-22-15, set 5½-in. casing 2,850 ft., T.D. 3,225 ft.

Claiborne Parish

J. D. Caruthers, trustee, 1 Simmons unit, N½ SW 2-20-5w, drilling sand and shale 5,345 ft.
V. A. Hardin et al 1 Valentine, NW NW 31-20-6w, cuttings show oil 5,324-40 ft., 5,815 ft.
Ohio 15 G. W. Taylor Account 1, NE SW SE 15-23-8, drilling hard sand and shale 9,732 ft.
Union 1-A T. D. Meadows et al, NE 18-21-4, drilling hard sand 7,622 ft.
A. D. Yeary 1 J. A. Harris, SE SW SW 17-19-6, S.D. 900 ft., repair rig.

De Soto Parish

R. C. Swayles 1 Jackson, SE NW SW 36-12-14, drilling shale 980 ft.
Union 1-B Mrs. M. E. Garrett, W½ SE 33-12-16, top massive 4,587 ft., base massive 4,841 ft., drilling lime and shale 5,327 ft.

Grant Parish

Fay Oil Co. 1 Swope, SE SE 13-9n-1w, drilling sand 1,630 ft.
Peterson Petroleum Corp. 1 Swope, SE NW SE 18-9-1e, drilled plug 1,609 ft., tested salt water, S.D.

Tensas Parish

H. L. Hunt 2 Chicago Mill, SW NE 30-12-10, T.D. 4,232 ft., ran electrical survey.

ARKANSAS

The McKamie field of Lafayette County was extended one location to the southeast with completion of the Atlantic Refining Co. 2 Bodcaw in 29-17-23. An overall section of 204 ft. of porous lime was encountered in the oolitic Reynolds member of the Smackover lime. The lime was topped at 9,041 ft., first porosity at 9,051 ft., and main porosity at 9,123 ft. Operators penerated the entire oil and gas section of the porous lime to 9,287 ft. and set oil string at 9,285 ft. Perforations were shot at 9,200-42 ft. using 213 shots and the first 24 hours gaged 24 bbl. hourly through a 16/64-in. choke. The high-gravity oil runs 58.4° A.P.I. The 2 Bodcaw made a better initial than the discovery well, 1 Bodcaw.

ARKANSAS COMPLETIONS

Stephens—Nevada County

O. F. Whitaker 2 W. M. Edwards, NE SE SW 3-15-20, dry, T.D. 2,232 ft.

Urbana—Union County

Marine Oil Co. 4 M. H. Simmons, NW NE NW 10-18-13, pumping 30 bbl. and 85 per cent salt water, T.D. 3,517 ft.
Marine Oil Co. 5 M. H. Simmons, NW NE NW 10-18-13, 147 bbl., 12/64-in. choke, T.P. 360 lb., C.P. 750 lb., T.D. 3,030 ft., 7-in. casing 3,021 ft., perf. 2,950-62 ft.
McCreslen Oil Co. 5 J. C. Parker, SE NW SE 3-18-13, 85 bbl., heading through open tubing, C.P. 300 lb., T.D. 3,015 ft.

McKamie—Lafayette County

Atlantic 2 Bodcaw Lumber Co., SW SE 29-17-23, 576 bbl., 16/64-in. choke, T.P. and C.P. 4,650 lb., perf. casing 9,200-42 ft., 213 shots, top Smackover lime 9,401 ft., main porosity 9,123-9,257 ft., T.D. 9,287 ft.

ARKANSAS DRILLING REPORT

Clark County

W. P. Wilson 1 Hamilton & Mathews, SW NW 32-10-20, reported show oil 1,560-72 ft., T.D. 1,572 ft., ran electrical survey 1,505 ft., arranging set casing.

Columbia County

Louark (Standard) 1 Longino et al, NE SE 10-18-10, drilling shale 5,265 ft.

Dallas County

H. H. McBride et al 1 Southern Kraft, SE SW 16-9-16, S.D. 1,088 ft.

Howard County

Miller & Fletcher 1 Dierks Lumber Co., SW SW 7-8-28, S.D. 260 ft.

Lonoke County

Lunnon Howell & Ford 1 City of Cabot, NE cor., Lot 1, Blk. 6, 18-4n-9w, S.D. 1,300 ft.

Miller County

John Coats 1 L. Ochsenbien, SE NW 19-14-27, drilling 1,257 ft.

Prairie County

Hazen Oil Co. 1 Fidelity Mutual, NE NE SW 16-2n-6w, S.D. 85 ft.

Saline County

Tedford Drilling Co. 1 Williams, 31-3s-15w, S.D. 390 ft.

ARKANSAS FIRST REPORTS

Wildcat—Miller County

Love, Owens & Carter 1 Montana Realty Co., N½ SW SW 10-17-28.

Nick Springs—Union County

Fohs Oil Co. 1 J. D. Dunbar, SE NE NW 31-17-14.

Urbana—Union County

Marine 2 Brown, NE NW NW 10-18-13.

EAST TEXAS BORDER

Another deep Trinity wildcat was begun this week by Superior Oil Co. of Tulsa 6 miles northeast of Patroon and 12 miles southeast of Shelbyville, Shelby County. The company abandoned 3 Pickering Lumber Co., dry at 7,170 ft., this week after encountering a slight show of gas at 5,069 ft., and has moved southeast to the new deep test, 5 Pickering.

In Harrison County J. A. Hughes completed the wildcat, 1 Taylor, in the H. Nutt Survey, 6 miles east of Karnack, pumping 3 bbl. of oil daily. Tokio was topped at 2,420 ft. and the base was reported at 2,491 ft. A string of 7-in. casing was set at 2,433 ft. with total depth at 2,612 ft. This may bring further drilling in the area, similar to that in the Smithland field where activity continues steady.

EAST TEXAS BORDER COMPLETIONS

Wildcat—Harrison County

J. A. Huges 1 Taylor, H. McNutt Sur., pumping 3 bbl., 7-in. casing 2,433 ft., T.D. 2,612 ft., top Tokio 2,420 ft., base Tokio 2,491 ft.

Caddo—Marion County

R. S. Barnwell, Jr. 1 J. Fitzgerald, N. Gupton Sur., pumping 7 bbl., 5½-in. casing 2,240 ft., T.D. 2,410 ft.

Smithland—Marion County

J. D. Reynolds 7-B Terry estate, W. Coore Sur., pumping 10 bbl., oil sand 2,332-46 ft., T.D. 2,359 ft., 7-in. casing 2,326 ft.
Morris Tidwell 2 W. P. Stiles, M. G. Nall Sur., pumping 5 bbl., 5½-in. casing 2,242 ft., T.D. 2,396 ft.

Shelby County

Superior Oil Co. of Tulsa 3 Pickering Lumber Co., Thomas Haley Sur., dry, slight show gas 5,069 ft., T.D. 7,170 ft.

EAST TEXAS BORDER DRILLING REPORT

Cass County

Max Agress 1 Clark & Boise Lumber Co., Lot 2, B. Hawkins Sur., drilling 2,221 ft.
H. A. King 1 Heilborn & Kay, SW cor. S.&S.E.R.R. Sur., drilling 3,337 ft.

Panola County

Holcombe & Thomason 15 Crenshaw heirs, NW cor. Thomas W. Cox Sur., rigged up, shut down.

Sabine County

Sterm & Womack 1 I. H. Kieth, L. Grace Sur., S.D., D.S. stuck 6,173 ft.

Shelby County

P. & B. Oil Co. 2 W. C. Windham, A. K. English Sur., P.B. 3,360 ft., pumping 80 bbl. fluid, 10 per cent oil, old T.D. 3,362 ft.
W. C. Parker 1 F. G. Willey, A. K. English Sur., T.D. 3,482 ft., show oil and gas, S.I.
Paul Pewitt (McDaniels) 1 J. S. Swann, Ann Gray Sur., sidetracked 3,580 ft., drilling 4,520 ft.

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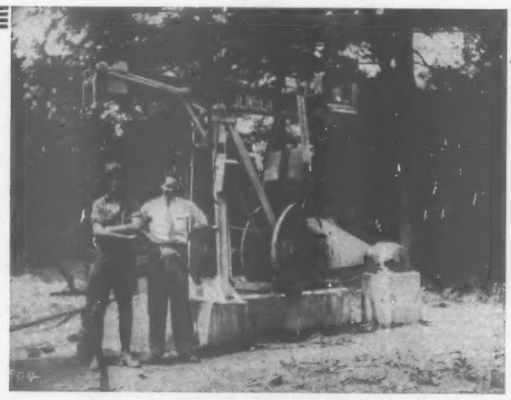

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JENSEN JACKS

BROTHERS Manufacturing Co.
Coffeyville, Kansas

JENSEN JACKS are catalogued in the Producing Equipment Directory and the Composite Catalog.

EXPORT OFFICE: 50 Church St., New York

Summary of Operations in All Fields, August

SUMMARY OF OPERATIONS

Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Appalachian fields	468	570	31	82
Ohio	108	539	42	40
Kentucky	74	2,168	29	13
Michigan	91	5,289	41	3
Illinois	424	121,659	113	2
Indiana	66	4,816	23	7
Kansas	196	65,448	28	5
Oklahoma	201	22,704	82	13
Missouri	3	0	2	1
Nebraska	7	500	6	0
North Central Texas	124	30,627	40	2
West Texas	142	120,184	7	1
Texas Panhandle	55	9,443	1	11
East Texas	43	2,189	11	2
East Texas Border	14	195	3	5
Gulf Coast Texas	90	24,052	18	2
Southwest Texas	191	16,297	78	7
Southeast New Mexico	32	8,997	8	0
Arkansas	15	675	9	0
North Louisiana	41	3,890	9	2
Gulf Coast Louisiana	79	18,020	15	0
Mississippi	16	1,960	11	0
Alabama	1	0	1	0
Colorado	2	90	0	0
Montana	27	1,369	4	7
Wyoming	20	16,951	5	0
Northwest New Mexico	5	226	3	0
Total August	2,535	478,858	620	205
Total July	2,626	508,217	690	202
Difference	91	29,359	70	3

Rigs and Wells Drilling

District—	Rigs	Drlg.	Total
Appalachian fields	56	452	508
Ohio	46	154	200
Kentucky	6	98	104
Michigan	41	142	183
Indiana	33	86	119
Illinois	64	324	388
Kansas	28	226	254
Oklahoma	31	243	274
Iowa	9	3	3
Missouri	1	14	15
Nebraska	1	20	21
South Dakota	0	1	1
Arizona	0	7	7
North Central Texas	109	242	351
West Texas	44	199	243
Texas Panhandle	30	68	98
East Texas	21	54	75
East Texas Border	6	18	24
Gulf Coast Texas	27	104	131
Southwest Texas	29	140	169
Southeast New Mexico	24	92	116
Arkansas	2	30	32
North Louisiana	3	71	74
Louisiana Gulf Coast	23	98	121
Mississippi	9	37	46
Alabama	1	7	8
Georgia	0	4	4
Florida	0	5	5
Colorado	0	33	33
Montana	10	57	67
Utah	2	6	8
Wyoming	7	74	81
Northwest New Mexico	1	10	11
Total August	655	3,119	3,774
Total July	655	3,303	3,958
Difference	0	184	184

KANSAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Barber	0	0	0	0	0	5
Barton	27	8,616	5	1	4	24
Butler	10	573	3	0	0	17
Cowley	6	1,562	1	0	1	11
Dickinson	1	0	1	0	0	0
Douglas	0	0	0	0	0	2
Ellis	19	7,182	2	0	1	11
Ellsworth	22	6,337	5	0	3	26
Grant	0	0	0	0	0	2
Greenwood	9	225	1	0	3	19
Harvey	1	590	0	0	0	0
Jefferson	2	0	1	1	1	1
Johnson	1	0	1	0	0	4
Kearny	0	0	0	0	0	1
Leavenworth	0	0	0	0	0	1
Lyon	0	0	0	0	0	1
McPherson	16	6,339	0	0	3	20
Marion	3	50	2	0	0	6
Ness	0	0	0	0	0	1
Nemaha	0	0	0	0	0	1
Pawnee	1	66	0	0	0	0
Phillips	1	0	1	0	0	1
Pratt	4	625	1	2	0	5
Reno	2	644	0	0	0	2
Rice	13	4,265	2	0	4	11
Rooks	7	4,060	0	0	0	7
Russell	31	16,792	1	0	6	23
Sedgwick	1	20	0	0	0	1
Stafford	17	7,502	1	0	2	19
Stevens	1	0	0	1	0	1
Trego	0	0	0	0	0	1
Woodson	0	0	0	0	0	2
Ttl. Aug.	195	65,448	28	5	28	226
Ttl. July	148	32,367	29	7	26	236
Difference	47	33,081	1	2	2	10

OKLAHOMA

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Atoka	2	0	2	0	0	1
Beaver	1	0	1	0	0	0
Beckham	0	0	0	0	0	2
Caddo	12	2,986	7	0	2	8
Carter	8	735	3	0	5	9
Coal	2	0	1	1	0	0
Comanche	0	0	0	0	0	2
Cotton	2	0	1	1	1	0
Creek	17	343	8	0	1	12
Cleveland	1	0	1	0	0	1
Garfield	0	0	0	0	0	1
Garvin	1	0	1	0	0	1
Grady	1	35	0	0	1	4
Hughes	5	300	3	1	1	3
Jackson	2	185	0	0	0	6
Johnston	0	0	0	0	0	1
Kay	1	0	1	0	2	4
Kingfisher	0	0	0	0	0	1
Kiowa	4	228	3	0	1	3
Lincoln	6	746	2	1	1	5
Logan	0	0	0	0	0	1
Marshall	4	1,435	0	0	0	10
Muskogee	3	84	1	0	0	4
Noble	3	5,271	1	0	0	4
Okfuskee	12	3,682	2	0	2	11
Oklahoma	5	1,525	1	0	2	11
Okmulgee	11	89	3	0	1	10
Osage	15	873	4	1	0	15
Pawnee	6	321	2	1	0	3
Payne	3	760	2	0	0	6
Pontotoc	14	491	5	2	2	10
Pottawatomie	17	1,797	5	0	1	10
Seminole	16	525	7	2	3	19
Stephens	1	5	0	0	1	7
Texas	1	0	0	1	0	3
Tillman	3	175	1	0	0	4
Tulsa	9	33	5	1	0	11
Wagoner	12	80	8	1	0	7
Washita	1	0	1	0	0	0
Miscellaneous	0	0	0	0	4	33
Ttl. Aug.	201	22,704	82	13	31	243
Ttl. July	154	10,201	76	17	28	268
Difference	47	12,503	6	4	3	25

SOUTHEAST NEW MEXICO

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Chaves	0	0	0	0	2	3
De Baca	0	0	0	0	0	1
Dona Ana	0	0	0	0	0	2
Eddy	13	859	7	0	9	45
Lea	18	8,138	0	0	13	37
Luna	1	0	1	0	0	0
Otero	0	0	0	0	0	2
Roosevelt	0	0	0	0	0	1
Socorro	0	0	0	0	0	1
Ttl. Aug.	32	8,997	8	0	24	92
Ttl. July	53	10,517	8	1	23	92
Difference	21	1,520	0	1	1	0

TEXAS PANHANDLE

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Carson	9	2,256	0	1	7	8
Childress	0	0	0	0	0	1
Cottle	0	0	0	0	0	1
Dickens	0	0	0	0	0	1
Gray	14	2,284	0	0	7	14
Hall	1	0	1	0	0	0
Hutchinson	24	4,860	0	4	12	27
Motley	0	0	0	0	1	0
Moore	6	0	0	6	1	6
Ochiltree	0	0	0	0	0	1
Sherman	0	0	0	0	0	1
Swisher	0	0	0	0	0	1
Wheeler	1	43	0	0	2	7
Ttl. Aug.	55	9,443	1	11	30	68
Ttl. July	72	14,851	1	10	34	80
Difference	17	5,408	0	1	4	12

WEST TEXAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Andrews	4	1,863	1	0	1	2
Crane	11	12,756	1	0	4	12
Concho	0	0	0	0	0	1
Cochran	2	816	0	0	2	3
Crockett	0	0	0	0	1	8
Culberson	0	0	0	0	0	1
Dawson	1	0	1	0	0	1
Ector	37	45,681	0	0	9	41
El Paso	0	0	0	0	0	1
Gaines	16	11,782	0	0	6	22
Hockley	6	3,555	0	0	1	5
Howard	4	1,009	1	0	1	3
Hudspeth	0	0	0	0	0	2
Irion	0	0	0	0	0	1
Mitchell	2	890	0	0	3	2
Pecos	6	276	1	0	2	16
Presidio	0	0	0	0	0	2
Reagan	1	0	1	0	0	0
Reeves	0	0	0	0	0	1
Schleicher	0	0	0	0	0	1
Scurry	3	524	0	0	2	6
Stonewall	1	581	0	0	0	1
Sutton	0	0	0	0	0	1
Terrell	0	0	0	0	0	1
Terry	3	4,480	0	0	0	2
Tom Green	0	0	0	0	0	1
Upton	7	7,877	0	0	0	8
Ward	8	6,296	1	0	2	13
Winkler	7	1,601	0	1	1	7
Yoakum	23	20,197	0	0	9	34
Ttl. Aug.	142	120,184	7	1	44	199
Ttl. July	178	146,503	9	1	62	220
Difference	36	26,319	2	0	18	21

WEST CENTRAL AND NORTH TEXAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Archer	17	8,225	1	0	17	29
Brown	5	14	3	0	4	5
Baylor	1	0	1	0	1	5
Callahan	12	20	10	1	5	7
Clay	9	1,346	5	0	6	17
Coleman	5	1,573	1	0	3	8
Comanche	1	3	0	0	1	3
Cooke	4	1,165	2	0	4	9
Coryell	0	0	0	0	0	1
Denton	0	0	0	0	0	2
Erath	0	0	0	0	0	3
Eastland	1	110	0	0	3	6
Fannin	0	0	0	0	1	1
Fisher	0	0	0	0	1	1
Foard	0	0	0	0	0	2
Grayson	0	0	0	0	0	2
Hamilton	0	0	0	0	2	4
Hardeman	0	0	0	0	0	1
Jack	3	20	2	0	6	11
Jones	8	613	4	0	4	12
Montague	7	5,497	1	0	5	13
Palo Pinto	0	0	0	0	1	6
Parker	0	0	0	0	0	4
Runnels	0	0	0	0	0	5
San Saba	0	0	0	0	1	0
Shackelford	21	776	7	1	11	14
Stephens	1	1,182	0	0	1	6
Tarrant	0	0	0	0	0	3
Taylor	2	1,327	0	0	0	2
Throckmorton	0	0	0	0	0	2
Wichita	14	3,416	2	0	23	34
Wilbarger	4	2,181	0	0	3	5
Wise	0	0	0	0	0	1
Young	9	3,159	1	0	6	18
Ttl. Aug.	124	30,627	40	2	109	242
Ttl. July	285	64,226	108	2	107	253
Difference	161	33,599	68	0	2	11

EASTERN TEXAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Anderson	6	697	0	1	1	6
Angelina	1	0	1	0	0	0
Camp	0	0	0	0	0	1
Delta	0	0	0	0	1	0
Falls	0	0	0	0	0	1
Franklin	1	250	0	0	0	1
Freestone	3	400	1	0	1	3
Gregg	14	403	0	0	5	9
Henderson	2	0	2	0	1	3
Houston	1	0	0	1	1	2
Kaufman	1	0	0	0	0	1
Leon	1	0	1	0	0	2
Limestone	0	0	0	0	0	2
Morris	1	0	1	0	0	0
Navarro	1	0	1	0	0	3
Red River	0	0	0	0	0	1
Rusk	7	164	2	0	5	6
Robertson	0	0	0	0	0	1
Smith	1	64	0	0	6	9
Titus	1	171	0	0	0	1
Upshur	1	40	0	0	0	1
Van Zandt	1	0	1	0	0	1
Wood	1	0	1	0	0	0
Ttl. Aug.	43	2,189	11	2	21	54
Ttl. July	35	2,583	5	2	22	50
Difference	8	394	6	0	1	4

SOUTHWEST TEXAS

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Agua Dulce	2	55	0	0	0	2
Adami	4	91	0	0	0	1
Baffin Bay	0	0	0	0	1	0
Ben Bolt	1	227	0	0	0	1
Blas Uribe	1	0	1	0	0	0
Boyle	1	0	1	0	2	2
Bloomington	0	0	0	0	0	1
Bridwell	1	231	0	0	0	1
Bruni	0	0	0	0	0	1
Calliham	1	0	1	0	0	1
Casa Blanca	2	0	2	0	1	1
Cedar Creek	0	0	0	0	0	1
Chacon Lake	3	6	0	0	1	1
Cedro Hill	1	35	1	0	0	1
Chiltipin	1	12	0	0	0	0
Colorado	10	1,366	1	0	0	4
Clara Driscoll	1	14	0	0	1	1
Coffey	0	0	0	0	0	1
Coleto Creek	1	0	0	1	0	2
Darst Creek	0	0	0	0	0	1
Driscoll	2	310	0	0	1	0
Ducky Bay	2	100	1	0	1	1
East Flour Bluff	2	236	0	0	0	1
E. Placedo	1	192	0	0	0	0
E. Plymouth	1	0	0	1	0	1
East White Point	0	0	0	0	2	0
E. Premont	0	0	0	0	0	1
Elm Creek	2	2	0	0	0	1
Fagan	1	0	1	0	0	0
Gas Ridge	1	2	0	0	0	2
Glen	8	1,028	0	1	1	5
Hayden	2	0	0	2	0	0
Gallagher	2	84	1	0	1	0
Heyser	2	165	0	0	0	2
Hoffman	5	124	3	1	0	1
Kelsey	3	276	0	0	0	1
Keeran	1	0	0	1	0	1
La Rosa	6	2,904	0	0	0	1
Luling	1	26	0	0	0	0
Luby	1	110	0	0	0	0
Lundell	3	132	0	0	0	2
Madron	1	70	0	0	0	0
Manila	5	331	2	0	1	2
Minne Bock	2	85	0	0	0	0
Margo	1	0	1	0	0	0
McCampbell	3	212	0	0	3	3
McFaddin	2	158	0	0	0	2
Midway	1	0	1	0	1	2
Mount Lucas	1	0	1	0	0	0
North Pettus	1	0	1	0	0	0
Oakville	1	0	1	0	0	0
Orange Grove	7	1,381	0	0	1	4
Peters	1	0	1	0	0	0
Piedra De Lumbre	1	78	0	0	0	0
Pearsall	0	0	0	0	0	2
Plymouth	0	0	0	0	0	1
Refugio	1	113	0	0	0	1
Riddle	1	0	1	0	0	0
Rincon	3	528	0	0	1	1
San Jose	1	0	1	0	0	0
Samfordyce	1	87	0	0	2	1
Shield	1	129	0	0	0	1
South Clara Driscoll	1	72	0	0	0	1
Somerset	0	0	0	0	0	1
South Alfred	0	0	0	0	0	1
Stratton	2	134	0	0	1	3
Sun	4	660	0	0	0	2
Tarancahuas	2	122	1	0	0	0
Telferner	1	0	1	0	0	0
Terrell	1	25	0	0	0	0
Thomaston	0	0	0	0	0	1
Thrall	1	0	1	0	0	0
Tomoconnor	2	1,354	0	0	0	1
Victoria	0	0	0	0	0	1
Volpe	1	0	1	0	0	0
Wade City	15	2,774	2	0	2	8
West Cole	5	35	4	0	1	1
Weygand	1	208	0	0	0	0
White Creek	0	0	0	0	0	3
Yzaguire	1	15	0	0	0	0
Miscellaneous	43	0	43	0	4	54
Ttl. Aug.	191	16,297	78	7	29	140
Ttl. July	147	13,850	45	5	26	150
Difference	44	2,437	33	2	3	10

TEXAS GULF COAST

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Alta Loma	0	0	0	0	0	2
Anahuac	4	1,320	1	1	1	2
Bay City	0	0	0	0	0	2
Batson	1	504	0	0	1	1
Big Creek	0	0	0	0	1	0
Caplen	1	168	0	0	1	0
Cedar Point	0	0	0	0	1	0
Clear Lake	4	995	2	0	0	2
Clam Lake	1	218	0	0	0	1
Cotton Lake	1	0	1	0	0	0
Danbury	1	0	1	0	0	2
Dickinson	0	0	0	0	0	2
Esperson	2	1,225	0	0	0	2
Fannett	1	867	0	0	0	2
Fairbanks	1	144	0	0	1	2
Francitas	1	137	0	0	0	0
Greens Lake	0	0	0	0	0	1
Ganado	2	340	0	0	1	0
Hardin	3	393	1	0	1	1
Hastings	0	0	0	0	0	1
Hilje	0	0	0	0	0	2
Hull	1	74	0	0	0	2
Humble	2	245	0	0	1	0
League City	0	0	0	0	0	3
Labelle	0	0	0	0	1	1
Lissie	1	25	0	0	0	0
Lolita	7	1,857	0	0	2	5
Lovells Lake	1	148	0	0	0	3
Manvel	1	454	0	0	0	2
Magnet	0	0	0	0	0	1
Markham	1	0	0	1	0	0
Martha	0	0	0	0	0	1
Ogburn	1	0	1	0	0	2
Old Ocean	2	564	0	0	1	7
Orange	0	0	0	0	0	1
Pickett Ridge	2	125	0	0	0	1
Port Neches	3	558	1	0	1	1
Raccoon Bend	0	0	0	0	0	2
Rowan	0	0	0	0	0	1
Seabreeze	1	359	0	0	1	0
Segno	4	1,337	0	0	1	1
South China	1	220	0	0	0	2
Spurger	2	736	0	0	0	2
Sheridan	0	0	0	0	0	1
South Cotton Lake	1	0	1	0	0	1
S. Houston	1	541	0	0	0	0
Thompson	6	2,226	0	0	1	3
Tomball	2	607	0	0	0	1
Van Vleck	0	0	0	0	0	1
W. Beaumont	1	78	0	0	1	0
West Ranch	11	5,804	0	0	3	11
W. Columbia	3	749	0	0	0	3
Withers	4	1,034	0	0	1	4
Miscellaneous	8	0	9	0	5	16
Tlt. Aug.	90	24,052	18	2	27	104
Ttl. July	112	22,995	15	0	29	83
Difference	22	1,057	3	2	2	21

LOUISIANA GULF COAST

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Anse La Butte	3	913	0	0	1	4
Bancroft	1	193	0	0	0	0
Barataria	3	942	0	0	1	2
Bateman Lake	0	0	0	0	0	2
Bayou Blue	4	572	0	0	0	2
Bayou De Glaize	0	0	0	0	0	1
Bay St. Elaine	2	259	0	0	0	1
Bayou Pigeon	0	0	0	0	0	1
Caillou Island	1	0	1	0	0	1
Charenton	3	335	0	0	1	2
Choctaw	0	0	0	0	0	1
Chalkley	0	0	0	0	1	1
Chacahoula	0	0	0	0	0	2
Cheneyville	2	541	0	0	0	1
Cameron Meadows	0	0	0	0	0	1
Darrow	0	0	0	0	0	1
Delta Farms	0	0	0	0	0	1
East Baton Rouge	3	552	1	0	1	0
Eola	3	933	0	0	0	1
Erath	0	0	0	0	0	1
Fausse Point	0	0	0	0	0	2
Four Isle	1	0	1	0	0	0
Gibson	0	0	0	0	0	1
Grand Bay	1	410	0	0	1	0
Golden Meadow	13	2,893	2	0	2	5
Garden Island	1	455	0	0	0	0
Grand Lake	1	285	0	0	0	0
Gueydan	0	0	0	0	0	1
Hackberry	2	636	0	0	0	3
Happytown	0	0	0	0	0	1
Horseshoe Bayou	0	0	0	0	0	1
Jeanerette	0	0	0	0	0	1
Jennings	1	445	0	0	0	4
Jefferson Island	0	0	0	0	0	1
La Fourche Crossing	1	80	0	0	0	1
Lafitte	2	1,762	0	0	1	1
Lake Long	0	0	0	0	0	1
Lake Mongoulois	0	0	0	0	0	1

Lake Hermitage	0	0	0	0	0	1
Lake Pelto	1	0	1	0	1	0
La Place	0	0	0	0	0	1
La Pice	0	0	0	0	0	1
Lake Salvador	1	486	0	0	1	1
Lockport	0	0	0	0	0	1
Leesville	0	0	0	0	0	2
Neale	1	280	0	0	1	3
N. Crowley	1	672	0	0	0	2
New Iberia	4	615	1	0	1	2
Paradis	2	924	0	0	1	1
Port Barre	0	0	0	0	0	1
Plumb Bob	0	0	0	0	0	1
Potash	0	0	0	0	0	1
Ritchie	0	0	0	0	1	0
Quarantine Bay	0	0	0	0	1	1
Raceland	1	130	0	0	0	1
S. Roanoke	1	0	1	0	0	1
Starks	1	150	0	0	1	0
Sulphur	1	165	0	0	0	1
Sweet Lake	1	250	0	0	0	1
Valentine	1	440	0	0	0	1
Vermilion Bay	0	0	0	0	0	1
Ville Platte	5	1,096	0	0	2	6
Venice	1	321	0	0	0	1
Vinton	1	0	1	0	0	0
Welsh	0	0	0	0	1	1
West Lake Verret	1	365	0	0	1	0
White Castle	0	0	0	0	0	1
Woodlawn	1	120	0	0	0	1
Miscellaneous	6	0	6	0	2	13
Ttl. Aug.	79	18,020	15	0	23	98
Ttl. July	107	24,245	22	2	23	120
Difference	28	6,225	7	2	0	22

EAST TEXAS BORDER

	Comp.	Prod.	Dry Gas*		Rgs.	Dlg.
Bowie	1	0	1	0	0	2
Cass	0	0	0	0	1	1
Harrison	3	0	0	3	2	1
Marion	9	195	2	1	1	9
Panola	0	0	0	0	1	0
Sabine	0	0	0	0	0	1
San Augustine	0	0	0	0	1	0
Shelby	1	0	0	1	0	4
Ttl. Aug.	14	195	3	5	6	18
Ttl. July	12	165	6	1	0	24
Difference	2	30	3	4	6	6

*Gas production in million cubic feet: Harrison County, 46; Marion, 4.8; Shelby County, 144.

NORTH LOUISIANA

Parish—	Comp.	Prod.	Dry Gas*		Rgs.	Dlg.
Bienville	1	0	0	1	0	1
Bossier	2	0	2	0	1	8
Caddo	25	1,655	3	0	0	27
Claiborne	0	0	0	0	1	4
De Soto	0	0	0	0	0	6
Franklin	0	0	0	0	0	1
Grant	0	0	0	0	0	2
La Salle	9	1,375	2	0	0	12
Ouachita	1	0	0	1	0	1
Red River	0	0	0	0	0	1
Sabine	1	0	1	0	0	3
Tensas	0	0	0	0	0	1
Union	0	0	0	0	0	1
Webster	2	860	1	0	1	3
Ttl Aug.	41	3,890	9	2	3	71
Ttl. July	53	3,020	16	7	8	59
Difference	12	870	7	5	5	12

*Gas production in million cubic feet: Bienville Parish, 50.0; Ouachita Parish, 3.0.

ARKANSAS

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Clark	3	0	3	0	0	0
Columbia	0	0	0	0	0	6
Dallas	0	0	0	0	0	1
Faulkner	1	0	1	0	0	0
Howard	0	0	0	0	0	1
Lafayette	1	30	0	0	0	4
Lonoke	0	0	0	0	0	3
Miller	2	0	2	0	0	1
Nevada	2	35	1	0	0	2
Ouachita	1	60	0	0	0	1
Prairie	0	0	0	0	0	1
Paluski	0	0	0	0	0	1
Saline	0	0	0	0	0	3
Sevier	1	0	1	0	0	0
Union	4	550	1	0	1	6
Yell	0	0	0	0	1	0
Ttl. Aug.	15	675	9	0	2	30
Ttl. July	18	2,140	7	0	7	28
Difference	3	1,465	2	0	5	2

MISSISSIPPI

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Attala	0	0	0	0	1	2
Choctaw	0	0	0	0	0	1
Copiah	0	0	0	0	0	1
Grenada	0	0	0	0	1	1
Hinds	0	0	0	0	0	1
Holmes	1	0	1	0	0	0
Issequena	0	0	0	0	0	1
Itawamba	0	0	0	0	0	1
Jefferson Davis	1	0	1	0	0	1
Jones	0	0	0	0	0	2
Kemper	1	0	1	0	0	1
Lamar	0	0	0	0	0	1
Madison	3	0	3	0	0	0
Monroe	1	0	1	0	0	0
Montgomery	0	0	0	0	1	2
Neshoba	1	0	1	0	0	0
Perry	1	0	1	0	0	0
Pike	0	0	0	0	0	1
Prentiss	0	0	0	0	0	1
Rankin	0	0	0	0	1	0
Scott	0	0	0	0	0	1
Tallahatchie	0	0	0	0	0	1
Warren	0	0	0	0	1	1
Washington	0	0	0	0	0	1
Wayne	0	0	0	0	0	1
Yalobusha	0	0	0	0	1	1
Yazoo	7	1,960	2	0	3	14
Ttl. Aug.	16	1,960	11	0	9	37
Ttl. July	14	3,445	6	0	11	37
Difference	2	1,485	5	0	2	0

FLORIDA

	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Dade	0	0	0	0	0	1
Levy	0	0	0	0	0	2
Suwannee	0	0	0	0	0	2
Ttl. Aug.	0	0	0	0	0	5
Ttl. July	0	0	0	0	0	5
Difference	0	0	0	0	0	0

ALABAMA

	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Colbert	0	0	0	0	0	1
Franklin	0	0	0	0	1	0
Fayette	0	0	0	0	0	1
Houston	0	0	0	0	0	1
Lawrence	0	0	0	0	0	1
Marion	0	0	0	0	0	1
Mobile	1	0	1	0	0	1
Walker	0	0	0	0	0	1
Ttl. Aug.	1	0	1	0	1	7
Ttl. July	0	0	0	0	1	7
Difference	1	0	1	0	0	0

APPALACHIAN FIELDS

Field—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Bradford	*261	304	0	0	12	185
Allegany	*76	97	0	0	4	27
N. Oriskany	10	0	9	1	4	14
Middle dist.	22	60	1	1	2	10
Butler-Armstrong	6	14	0	0	6	7
SW Penn.	34	10	8	25	7	53
W. Virginia	79	85	13	55	21	156
Ttl. Aug.	468	570	31	82	56	452
Ttl July	457	804	34	77	77	506
Difference	79	234	3	5	21	54

*Includes water intake wells.

ROCKY MOUNTAIN AREA

Northwest New Mexico

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Bernalillo	0	0	0	0	0	1
McKinley	3	226	1	0	1	1
San Juan	2	0	2	0	0	3
San Miguel	0	0	0	0	0	1
Socorro	0	0	0	0	0	1
Torrance	0	0	0	0	0	1
Valencia	0	0	0	0	0	2
Ttl. Aug.	5	226	3	0	1	10
Ttl. July	5	150	4	0	1	12
Difference	0	76	1	0	0	2

Colorado

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Boulder	0	0	0	0	0	1
Custer	0	0	0	0	0	1
El Paso	0	0	0	0	0	1
Fremont	0	0	0	0	0	1
Garfield	0	0	0	0	0	1
Huerfano	0	0	0	0	0	7
Jackson	0	0	0	0	0	1
La Plata	0	0	0	0	0	1
Larimer	1	50	0	0	0	1
Las Animas	0	0	0	0	0	1
Lincoln	0	0	0	0	0	1
Logan	0	0	0	0	0	1
Moffat	1	40	0	0	0	5
Montezuma	0	0	0	0	0	1
Ouray	0	0	0	0	0	1
Park	0	0	0	0	0	1
Pueblo	0	0	0	0	0	1
Rio Blanco	0	0	0	0	0	4
Routt	0	0	0	0	0	1
Washington	0	0	0	0	0	1
Ttl. Aug.	2	90	0	0	0	33
Ttl. July	3	19	2	0	3	33
Difference	1	71	2	0	3	0

Wyoming

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Albany	2	43	1	0	0	0
Big Horn	1	100	0	0	1	4
Carbon	2	4,824	1	0	1	3
Converse	0	0	0	0	1	3
Crook	0	0	0	0	0	1
Fremont	1	0	1	0	0	4
Hot Springs	2	15	1	0	0	2
Lincoln	0	0	0	0	0	4
Natrona	4	580	1	0	0	7
Niobrara	5	10,764	0	0	4	11
Park	2	600	0	0	0	2
Platte	0	0	0	0	0	1
Sublette	1	25	0	0	0	7
Sweetwater	0	0	0	0	0	7
Uinta	0	0	0	0	0	5
Washakie	0	0	0	0	0	2
Weston	0	0	0	0	0	11
Ttl. Aug.	20	16,951	5	0	7	74
Ttl. July	13	5,113	4	1	9	80
Difference	7	11,838	1	1	2	6

Montana

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Big Horn	0	0	0	0	0	2
Blaine	0	0	0	0	0	2
Carbon	0	0	0	0	0	6
Choteau	1	0	1	0	0	0
Fallon	2	0	0	2	2	0
Fergus	0	0	0	0	0	3
Glacier	8	999	0	1	7	13
Hill	0	0	0	0	0	1
Liberty	2	1	1	0	1	0
Petroleum	0	0	0	0	0	2
Phillips	2	0	0	2	0	3
Pondera	1	24	0	0	0	2
Toole	11	345	2	2	0	18
Miscellaneous	0	0	0	0	0	5
Ttl. Aug.	27	1,369	4	7	10	57
Ttl. July	24	2,335	3	2	6	51
Difference	3	966	1	5	4	6

Utah

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Ttl. Aug.	0	0	0	0	2	6
Ttl. July	0	0	0	0	3	5
Difference	0	0	0	0	1	1

EASTERN KENTUCKY

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Magoffin	2	2	1	0	0	3
Lee	2	10	0	0	0	3
Powell	7	43	2	0	0	4
Estill	0	0	0	0	0	1
Martin	3	7	0	2	2	3
Floyd	4	0	1	3	1	5
Knott	4	0	0	4	0	5
Elliott	0	0	0	0	0	1
Pike	1	0	0	1	2	12
Morgan	4	0	3	1	0	1
Wolfe	0	0	0	0	1	0
Breathitt	0	0	0	0	0	1
Johnson	0	0	0	0	0	1
Greenup	0	0	0	0	0	1
Carter	0	0	0	0	0	1
Ttl. Aug.	27	65	7	11	6	42
Ttl. July	11	165	3	4	13	27
Difference	16	100	4	7	7	15

Gas production from above wells 6,511,000 cu. ft.

WESTERN KENTUCKY

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Breckinridge	3	0	3	0	0	1
Butler	2	10	1	0	0	3
Christian	0	0	0	0	0	2
Daviess	13	1,588	3	0	0	12
Edmonson	0	0	0	0	0	1
Grayson	1	0	1	0	0	1
Hancock	7	60	2	1	0	4
Henderson	3	320	1	0	0	7
Hopkins	0	0	0	0	0	2
Larue	0	0	0	0	0	1
Logan	0	0	0	0	0	1
McLean	1	0	1	0	0	7
Ohio	15	50	9	1	0	13
Union	1	0	1	0	0	0
Webster	1	75	0	0	0	1
Ttl. Aug.	47	2,103	22	2	0	56
Ttl. July	37	1,258	15	2	0	56
Difference	10	845	7	0	0	0

OHIO

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Allen	0	0	0	0	0	1
Ashland	1	0	0	1	1	3
Athens	15	13	6	7	5	10
Auglaize	0	0	0	0	0	1
Belmont	0	0	0	0	0	1
Coshocton	2	55	0	0	0	2
Cuyahoga	0	0	0	0	1	3
Fairfield	1	0	0	1	0	2
Gallia	0	0	0	0	0	2
Geauga	0	0	0	0	0	1
Guernsey	2	0	1	1	1	5
Harrison	0	0	0	0	0	1
Hocking	2	0	2	0	1	2
Holmes	3	0	1	2	5	3
Henry	0	0	0	0	0	1
Jackson	0	0	0	0	0	1
Knox	5	0	3	2	3	6
Lake	0	0	0	0	0	2
Lawrence	1	0	1	0	1	6
Licking	17	136	5	7	8	17
Lorain	7	7	1	2	2	3
Mahoning	0	0	0	0	0	1
Medina	9	16	2	3	2	14
Meigs	2	0	2	0	1	5
Monroe	4	25	3	0	2	8
Morgan	2	0	2	0	0	3
Muskingum	3	0	1	2	1	6
Noble	5	0	1	4	3	11
Perry	8	277	2	1	3	6
Putnam	1	0	1	0	0	0
Stark	4	0	2	2	1	5
Summit	0	0	0	0	0	3
Tuscarawas	5	0	3	2	1	5
Van Wert	2	8	0	0	0	1
Vinton	1	0	0	1	0	0
Washington	6	2	3	2	4	11
Wayne	0	0	0	0	0	2
Ttl. Aug.	108	539	42	40	46	154
Ttl. July	134	463	38	53	47	175
Difference	26	76	4	13	1	21

ILLINOIS

County—	Comp.	Prod.	Dry Gas		Rgs.	Dlg.
Adams	1	0	1	0	0	1
Bond	12	528	8	0	3	5
Brown	2	0	2	0	0	0
Bureau	0	0	0	0	0	1
Clark	4	0	4	0	0	3
Clay	8	1,579	2	0	1	2
Clinton	61	19,271	18	0	5	15
Coles	2	0	2	0	0	0
Crawford	2	0	2	0	0	2
Cumberland	1	0	1	0	0	1
De Kalb	0	0	0	0	0	1
Edgar	1	0	1	0	0	3
Edwards	8	2,682	2	0	3	9
Effingham	1	0	1	0	0	3
Fayette	50	8,699	6	0	6	42
Ford	0	0	0	0	0	1
Franklin	2	0	2	0	5	1
Fulton	1	0	1	0	0	0
Gallatin	2	40	1	0	0	3
Hamilton	5	970	2	0	2	13
Hancock	0	0	0	0	0	1
Henry	0	0	0	0	0	1
Iroquois	1	0	1	0	0	2
Jackson	1	0	1	0	0	2
Jasper	6	3,382	2	0	0	6
Jefferson	3	0	3	0	4	1
Jersey	0	0	0	0	0	1
Knox	1	0	1	0	0	0
Lawrence	3	0	3	0	2	6
Logan	0	0	0	0	0	1
McDonough	1	0	1	0	0	3
Macoupin	5	0	5	0	0	2
Madison	1	0	0	1	0	3
Marion	110	60,221	8	0	10	71
Massac	0	0	0	0	0	1
Monroe	3	100	1	0	0	0
Montgomery	7	78	4	0	0	7
Peoria	0	0	0	0	0	1
Perry	3	0	3	0	0	0
Pike	0	0	0	0	0	1
Pope	1	0	1	0	0	1
Randolph	2	0	2	0	0	2
Richland	12	2,324	1	1	2	12
St. Clair	3	145	0	0	0	1
Schuyler	0	0	0	0	0	1
Saline	1	0	1	0	0	2
Shelby	2	0	2	0	0	1
Tazewell	0	0	0	0	0	1
Wabash	23	4,128	7	0	1	11
Warren	0	0	0	0	0	1
Washington	15	2,087	1	0	0	6
Wayne	26	9,550	4	0	9	22
White	31	5,875	5	0	11	47
Ttl. Aug.	424	121,659	113	2	64	324
Ttl. July	415	138,311	78	1	59	385
Difference	9	16,652	35	1	5	61

MICHIGAN

	Comp.	Prod.	Dry Gas*		Rgs.	Dlg.
Allegan	24	1,366	14	0	11	25
Arenac	3	1,981	0	2	5	13
Barry	2	0	2	0	1	1
Bay	0	0	0	0	0	2
Berrien	1	0	1	0	0	2
Calhoun	0	0	0	0	0	1
Cass	2	0	2	0	0	3
Chippewa	0	0	0	0	0	1
Clare	2	0	2	0	3	6
Genessee	2	0	2	0	0	0
Gladwin	1	104	0	0	1	2
Gratiot	1	0	1	0	1	1
Hillsdale	0	0	0	0	0	1
Huron	0	0	0	0	0	2
Ingham	0	0	0	0	0	1
Isabella	5	210	4	0	5	9
Kalamazoo	2	0	2	0	0	1
Kent	10	593	1	0	3	11
Lake	1	0	1	0	0	0
Lenawee	1	0	1	0	0	3
Mackinac	0	0	0	0	0	1
Manistee	0	0	0	0	0	1
Mecosta	0	0	0	0	0	1
Midland	2	136	0	0	0	4
Missaukee	2	0	2	0	0	1
Monroe	3	240	2	0	2	8
Montcalm	2	0	1	1	2	2
Muskegon	0	0	0	0	1	1
Newaygo	2	0	2	0	0	0
Oakland	1	0	1	0	0	2
Oceana	0	0	0	0	0	1
Ogemaw	0	0	0	0	0	1
Osceola	1	0	1	0	0	2
Otsego	0	0	0	0	0	2
Ottawa	11	549	6	0	2	12
Roscommon	1	0	1	0	1	1
St. Clair	0	0	0	0	0	5
St. Joseph	0	0	0	0	0	1
Shiawassee	0	0	0	0	0	1
Tuscola	0	0	0	0	1	3
Van Buren	9	110	6	0	1	7
Wayne	0	0	0	0	1	0
Ttl. Aug.	91	5,289	41	3	41	142
Ttl. July	92	5,158	57	6	16	134
Difference	1	131	16	3	25	8

*Gas production in million cubic feet: Arenac, 3.9; Montcalm, 2.2.

INDIANA

County—	Comp.	Prod.	Dry Gas*		Rgs.	Dlg.
Adams	0	0	0	0	0	1
Bartholomew	1	0	1	0	0	0
Boone	0	0	0	0	0	1
Crawford	0	0	0	0	0	1
Daviess	3	9	1	1	0	5
Decatur	3	0	0	3	0	1
Floyd	1	0	1	0	0	1
Gibson	28	4,294	3	0	6	24
Greene	0	0	0	0	0	1
Hamilton	0	0	0	0	1	1
Hancock	0	0	0	0	0	2
Harrison	0	0	0	0	0	1
Hendricks	0	0	0	0	0	1
Henry	0	0	0	0	0	1
Huntington	1	0	1	0	0	0
Jackson	0	0	0	0	0	1
Jay	2	0	2	0	0	2
Jasper	0	0	0	0	1	1
Knox	1	0	1	0	0	1
Madison	1	0	1	0	0	1
Marion	0	0	0	0	0	1
Martin	0	0	0	0	0	1
Newton	1	1	0	0	0	2
Pike	0	0	0	0	0	2
Porter	0	0	0	0	1	4
Posey	9	491	1	0	20	7
Randolph	0	0	0	0	2	5
St. Joseph	1	0	1	0	0	0
Spencer	10	30	7	2	0	13
Sullivan	3	0	2	1	0	1
Vanderburg	1	0	1	0	1	1
Vigo	0	0	0	0	0	1
Warrick	0	0	0	0	1	1
Whitley	0	0	0	0	0	1
Ttl. Aug.	66	4,816	23	7	33	86
Ttl. July	33	3,445	17	0	11	78
Difference	33	1,371	6	7	22	8

*Gas production in million cubic feet: Davies, 1.0; Sullivan, 0.04; Spencer, 4.1; Decatur, 0.3; Harrison, 0.01.

MICHIGAN OPERATIONS

Activity Lessens as Recent Discoveries Are Tested

By OTTO C. PRESSPRICH

SAGINAW, Mich., Sept. 23.—Michigan operations in the new centers of interest generally marked time last week while leaders in the industry and officials connected with the state's advisory board expressed the hope that conditions are due for improvement.

Release of August production figures last week revealed Michigan's output had dwindled to the lowest point in 21 months, but indications were that September would reverse the trend.

Including another big natural gas well in the Osceola County area being developed by Taggart Brothers, there were 19 completions recorded last week, 10 being producing wells and including C. W. Teater 1 Rockafellow in Adams Township, Arenac County, listed at 1,760 bbl., natural. The total potential of the 10 producer wells was nearly 3,400 bbl. a day, best average in many weeks, helped along by two good wells, one rating 672 bbl., the other 400 bbl. a day, recorded by W. L. McClanahan in the active Overisel section of Allegan County.

MICHIGAN PRODUCTION
August 1940

	Wells	Daily runs
Porter, Yost	340	4,805
Greendale, Chippewa	178	1,270
Geneva, Midland	2	16
Sherman, Isabella	61	1,314
Vernon-Leaton-Denver	79	738
Wise, Isabella	47	2,490
Freeman-Redding	146	11,827
Hamilton, Clare	1	252
Grant, Clare	3	0
Beaverton	21	157
Edenville	26	275
Grout, Gladwin	2	30
Bentley, Gladwin	36	344
Buckeye-Wicklund-Oard	294	2,478
Ogemaw	240	1,411
Secord, Gladwin	2	0
Adams, Arenac	18	1,731
Clayton, Arenac	51	1,215
Tuscola	6	0
Saginaw Bay area	56	115
Birch Run	25	25
Dundee, Monroe	11	302
Montcalm County	34	318
Allegan, all pools	476	6,442
Holland-Zeeland	3	13
Muskegon	58	74
Walker-Wyoming-Tallmadge	431	9,169
Van Buren, all pools	289	3,193
Total	2,936	50,004

Weber Oil Co. of Bay City, hoping it has a commercial well in a new field in Osceola County, was waiting for tools over the week end and officials were reluctant to hazard an opinion as to the well's possibilities. It was known, however, that the test showed a strong flow of oil.

There was some concentration of interest on the Michigan-Indiana border, in Berrien County, where Lakeland Oil Corp. is said to be getting 25 bbl. a day after acid-treating a shallow well in Section 1 of Niles Township, Berrien County, about 10 miles north of the state line. Depth was said to be only 600 ft., and a second test was being started, Clapsaddle & Harris being the contractors. The farthest-south production in Michigan, the Lakeland well is near another test of unknown status in Ontwa Township, Cass County, from which there have been rumors impossible of confirmation of an oil showing.

Meanwhile, Fortney Oil-Cryden Petroleum 1 McDonald test in Huron County was having difficulties in preparation for acidizing. The well was said to have been making around 7 bbl. an hour by heads. Uncemented 8-in. pipe dropped in the hole and had to be cleaned out. The 5-in. was run to the bottom of the 1,426-ft. well, but the strong gas pressure nearly blew the tools from the hole, then the line broke and the drillers were fishing for tools at the week's end.

In Adams Township, Arenac County, C. W. Teater 2 Rockafellow missed the big pay and is being drilled into a lower stratum which has been yielding from 35 to 70 bbl. a day in a few of the recent completions. To date four tests east of the Yenior discovery have missed the big pay. Pure Oil is starting two more wells in the area, contracting with Twin Drilling Co. for a test in NE SE NW Section 22, 2 miles west of the discovery well, and having moved in tools for the second in NW NE SE Section 22, south of the Teater wells.

Weber's Osceola test, at 3,628 ft., is the 1 Gabel, NE NE SW 31-18n-10w, Lincoln Township. In Osceola's Orient Township Chapman Oil Co. failed to get a show in its 1 McNielly wildcat, E½ W½ NW 33-17n-7w. Topping the Monroe at 3,862 ft., the test was listed as dry at 3,869 ft. The Richard Erlewine 1 Sams wildcat in Section 9 of Mecosta's Deerfield Township, 13n-9w, was having drilling difficulties at around 525 ft.

Lime testing was in order for two of a half-dozen locations in Hamilton and Winterfield townships of Clare County, as one project was tabbed as dry. It was Sun Oil 1 Oxidermo Products, in 28-19n-3w, Hamilton Township. It ran low on structure and operations were halted at 1,600 ft. Sun 1 McGregor, offset to the McKenna discovery in Section 15 of Hamilton, was getting 5-in. pipe. The other at the testing stage is Sun 1-A State-Winterfield wildcat in Section 35, Winterfield Township, 20n-6w.

New production in established fields was reported from Kent's Walker district, Porter of Midland, Ottawa, where a small well was completed in Tallmadge and a wildcat rating 35 bbl. in Georgetown, and in Bloomingdale of Van Buren.

Allegan got the lion's share of drilling permits issued by the state Conservation Department last week, six of the 11 for that county being for Overisel Township. Vic R. Wilson is starting a wildcat test in North Star Township, Gratiot County, where there probably have been more wildcat failures than in any other county in the state. Also listed were three new tests for the Cingano area of Beaverton, Gladwin County, where M. F. Whitehill recently completed an 800-bbl. producer. The Wise pool of Isabella County gets two more tests and Taggart Brothers took out permits attempting to extend the natural-gas field in Missaukee and Osceola counties. The week's permit total was 25.

The completion summary:

Allegan County

Heath Township: Howard E. Fowler 1 Kempker, NE NE SW 9-3n-14w, dry, T.D. 1,596 ft.
Fortney Oil 1 Poll, NE NW SE Sec. 16, dry, T.D. 1,508 ft.
Overisel Township: McClanahan 1 Busscher, SW SW NE 16-4n-14w, 672 bbl., acid, T.D. 1,499 ft.
McClanahan 2 Hofman, NW SW SE Sec. 16, 400 bbl., acid, T.D. 1,533 ft.
Salem Township: Universal Gas & Oil 1 A. C. and J. H. Smith, SE NE NW 15-4n-13w, 240 bbl., acid, T.D. 1,601 ft.

Arenac County

Adams Township: Pure Oil 1-A State-Arnold, SE SE SW 15-19n-3e, dry, T.D. 3,026 ft.
American Drilling 1 Ames, SW NW NW Sec. 23, dry, T.D. 3,040 ft.
C. W. Teater 1 Rockafellow, NW SE NE Sec. 22, 1,680 bbl., natural, T.D. 2,884 ft.

Clare County

Hamilton Township: Sun Oil 1 Oxidermo Products, N½ NE NW 28-19n-3w, dry, T.D. 1,600 ft.

Kent County

Walker Township: Smith Petroleum et al 4 Zeeff, NW SW SW 33-7n-12w, 250 bbl., acid, T.D. 1,785 ft.

Midland County

Porter Township: Pure Oil 33 Narmore, S½ SE SW 10-13n-1w, 230 bbl., acid, T.D. 3,400 ft.

Muskegon County

Muskegon Township: A. S. Cochran 5 Durham, NW SE SW 15-10n-16w, 8 bbl., acid, T.D. 1,710 ft.

Osceola County

Marion Township: Taggart Brothers 40 Richards et al, C NE 25-20n-7w, 17,250,000 cu. ft. gas, T.D. 1,382 ft.
Orient Township: Chapman Oil 1 McNeilly, C E½ W½ NW 33-17n-7w, dry, T.D. 3,873 ft.

Ottawa County

Georgetown Township: Fisher & McCall 1 Van Single, NW NE NW 2-6n-13w, 35 bbl., acid, T.D. 1,792 ft.
Fisher & McCall 2 Van Single, NE NW NW Sec. 2, dry, T.D. 1,950 ft.
Tallmadge Township: Welsh Oil 1 Root, SW SE SE 15-7n-13w, 30 bbl., acid, T.D. 1,683 ft.
Smith Petroleum 1 Baldwin, SW SW NE Sec. 34, 28 bbl., acid, T.D. 1,949 ft.

Van Buren County

Bloomingdale Township: R. H. Grant 1-A Stewart, SW NW NE 7-1s-14w, 10 bbl., acid, T.D. 1,214 ft.

CANADIAN FIELDS

West Central Turner Valley Gets Large Producer

By VICTOR LAURISTON

CHATHAM, Ont., Sept. 21.—In West Central Turner Valley Pacific Petroleums 5, LSD 6, 7-19-2w5, bottoming in the Madison limestone at 8,094 ft., is being finished as one of the largest producers in the field. On an extended test before acidization it made around 600 bbl. a day, and a light shot increased this to more than 1,200 bbl. a day. Gas-oil ratio was around 1,100 cu. ft.

West Central field: Okalta Oil 9, LSD 13, 18-19-2w5, is below 7,725 ft. after getting the Madison lime at 7,350 ft. The upper oil zone showed 60 ft. with heavy porosity. Completion is expected around 7,800 ft.

North Turner Valley: Alberta Oil Incomes 2, LSD 4, 4-21-3w5, cemented at 8,420 ft. after getting the Madison lime at 8,409 ft. The well is approximately 100 ft. higher on structure than Anglo-Phillips 1, which got production in the upper lime but encountered water in the lower horizon. Location is ¾ mile north of Home 2, previously the most northerly producer.

Lion Undertakes Drilling

Lion Oils, which has been refining and marketing in Alberta since 1930, using Montana crude, is entering the production field and has taken over the 160-acre lease and unfinished well of Sunray Petroleum Corp. in 13-19-3w5. Rotary outfit secured from Calmont Oils is being rigged at Sunray 1, LSD 8, and will resume from 2,918 ft. The outfit will run three tours, and production is expected in December. Location is a half mile due south of Arrow Royalties 1 producer. The Lion-Sunray group will drill four wells, partly financed by preferred royalties, the two companies participating jointly in any profit.

British-American Program

British-American Oil Co., with refineries at Montreal, Toronto, Moose Jaw and Calgary, will sponsor drilling in the Turner Valley west-flank area in conjunction with the Brown-Moyer-Brown group. Arrangements involve approximately 600 acres in the north and central areas. Tentative location for No. 1 has been made in NE 26-19-3w5, about a mile north of the most northerly test now drilling in the West Central field. The immediate drilling program, to be in charge of the Brown group, will be financed on a royalty basis, with the two companies taking a substantial proportion. All production will be earmarked for the British-American refineries. An ultimate program of 10 wells on 600 acres is being considered. The British-American company in 1936 assisted in the completion of Turner Valley Royalties 1, the first west-flank crude producer, and has used Turner Valley crude extensively in its two prairie refineries.

Hargal Oils of Vancouver, B. C., has purchased certain assets of Freehold Oil Corp. including all its petroleum and natural gas leases, 25,000 shares of Coast Drilling Co. and miscellaneous assets in return for 801,305 shares of Hargal stock. Freehold Oil Corp. was at one time active in South Turner Valley drilling, and its acreage includes lands in 32-18-2w5, South Turner Valley and 9-20-3w5 and 16-20-3w5, North Turner Valley.

Tests in the Foothills

In the Ram River-Clearwater area, in the northern Alberta foothills, Ram River Oils 2, 1-37-11w5, bottoming in the Devonian limestone below 580 ft., has taken a 50-ft. core with pronounced shows of light crude. Core has been sent to Edmonton for analysis and report by government officials. Clear Oils 1, LSD 8, 2-35-10w5, is shut down at 50 ft., waiting equipment.

In the Sheppard Creek area, south of Turner Valley, Alberta Pacific 1, LSD 6, 7-16-2w5, is reported entering the Madison limestone below 5,486 ft. Location is 12 miles south of Turner Valley and within 3 miles of the Duke of Windsor's E.P. ranch.

Ontario Drilling

Red Bay Petroleums of Toronto is planning a development program for the Bruce Peninsula, located in western Ontario between Lake Huron and Georgian Bay. In this area, the Trenton limestone, the chief potential producing horizon can be reached in 1,000 ft. of drilling. Natural gas has been found in small quantities at Spry, in Eastnor Township, and outcrop seepages of crude have been found at Red Bay.

MISSISSIPPI AND SOUTHEAST

Wildcat Exploration Gains In Mississippi Indicated

By GEORGE WEBER

JACKSON, Miss., Sept. 23.—An upturn in wildcatting in Mississippi is strongly indicated from new locations staked in the state during the past week. The activity may be attributed to both the approaching date on which many lease rentals fall due, and to the expectation of curtailed operations this coming winter.

During the past week nine wildcats were staked, some tentative and others beginning immediately. Southern Mississippi and Alabama are receiving increased lease play. Geophysical activity is declining in Mississippi, which has about 40 crews at present, and is moving with the general trend in leasing eastward into Alabama. There are 11 geophysical parties in Alabama this week, and at least one in Florida.

Tinsley continues active, with increased attention being directed to the southeast section of the field. Last week, Union Producing Co. completed 1 Robinette, a southeast-edge test, which found 94 ft. of Woodruff sand and made an initial of 704 bbl. through a 17/64-in. choke. This week the same operators brought in 1 Harris, a west offset to the Robinette test, for another good Woodruff well. The Harris has 81 ft. of Woodruff oil sand, illustrating the thickening tendency which the Woodruff section shows outward from the center of the field.

More drilling is due in the southeast sector of the field, and the north end where several sands are producing will remain active. The thickest Woodruff section yet found was drilled several months ago on the Union Herron lease. The two Herron wells have not been offset on the west, due to litigation concerning title. When the situation clears, further attention will be given to tracing the Woodruff trend to the west.

Tinsley production remained high the past week, averaging 25,480 bbl. daily. The effect of such large withdrawals on the reservoir pressure, originally low, is evidenced by the fact that many wells have gone on the pump since the production rose. Fifty-seven wells are pumping and 21 are flowing. At the present production rate, practically all wells will be on artificial lift in a short time. An indication that the high production will shortly cease, however, is seen in the statement of H. M. Morse, state oil and gas supervisor, that Tinsley operators have agreed to a voluntary proration agreement which will reduce the production to approximately 8,000 bbl. daily. With the exception of that amount of oil which is purchased in the field by the Standard Oil Co. of Louisiana on the basis of 100 bbl. a well daily, most oil run from the field in the past several weeks has gone into storage. Crude shipments to refineries in Vicksburg and Mobile have ceased temporarily.

Leasing continues to decline in Mississippi and gain in Alabama, Georgia and Florida. Recent lease transfers call for wildcats to be drilled in Covington, Grenada, Lafayette and Tishomingo counties, Mississippi, and new tests are expected in Alabama.

Southeast of Pickens, in Yazoo County, Mississippi, the Exchange Oil Co. 5 Wilburn, erroneously reported dry last week, is still active. It was plugged back from 6,043 ft. to 4,881 ft., drilled out to 4,905 ft., and casing set. A section at 4,825-33 ft. which showed oil will be tested, as well as the Wilburn sand at 4,865-72 ft.

MISSISSIPPI FIRST REPORTS

Wildcat—Lamar County

Tatum Lumber Co. 1 W. S. Tatum, C NE 14-2n-16w.

Wildcat—Lee County

R. L. Shoemaker 1 Martin, SW SW NE 33-9s-6e.

Wildcat—Madison County

W. W. Newman 2 W. P. Nichols, NE NW NE 2-6s-2e.

Wildcat—Noxubee County

Adams & Clements 1 Donahoe, SW SW 24-16n-17e.

Wildcat—Sharkey County

British American Oil Producing Co. 1 F. B. Houtson estate, N½ NE SW 23-11n-7w.

Wildcat—Tishomingo County

Mellen & Gear 1 E. K. Wood, SE SE SE 21-4s-11e, tentative location.

Wildcat—Yazoo County

Arcarea Reserve Co. 1 J. G. Holmes, SE SE 22-12n-1e.

MISSISSIPPI WILDCATS

Attala County

Jones & Crosby 1 Allen, SW SW 33-13n-5e, drilling chalk 3,107 ft.

Hawkins, Howell & Mathews 1 Weeks, NW NW SW 29-15-6e, S.D. 5,022 ft.

Jackson & Spearman 1 W. H. Crosby, NW NE 3-14n-7e, drilling chalk 2,509 ft.

Grenada County

Womble & Williams 1 Conn. Gen. Life Ins. Co., NE NW SE 28-23n-5e, S.D. 450 ft.

Jones County

T. N. Smith 1 Hollifield, NW SW NW 20-8n-12w, drilling new hole 4,287 ft.

Marshall County

C. B. Blosser 1 C. Stansback, SE SE 19-3s-4w, rigging up.

Montgomery County

E. R. Henderson 1 Columbian Mutual Life Ins. Co., 36-21-5e, T.D. 3,400 ft. (cor.), S.D.

Newton County

Kingwood Oil Co. 1 State Land, NE NE SE 27-8n-10e, drilling 3,863 ft.

Simpson County

Goodwill Oil & Gas Co. 1 Berry, 33-2n-4e, drilling 2,816 ft. (no report).

Yazoo County

Edward DeLoach 1 Wilburn, 6-12n-3w, drilling 2,913 ft.

Exchange Oil Co. 1 A. E. Edgar, SW NW NW 28-13n-1w, drilling 5,247 ft., top Selma chalk 4,630 ft.

Pickens—Yazoo County

Exchange Oil Co. and Kingwood Oil Co. 5 Wilburn, NW NW NW 31-12n-3e, T.D. 6,043 ft., P.B. 4,881 ft., drilled to 4,905 ft., set 7-in. casing 4,883 ft. to test show oil 4,825-33 ft., Wilburn sand 4,865-72 ft., preparing to perf.

MISSISSIPPI COMPLETIONS

Wildcat—Jones County

R. W. Williams et al 1 Eastman-Gardner, NE SW 7-8n-12w, T.D. 7,009 ft., dry, top Wilcox 1,905 ft., top Eutaw 6,617 ft.

Wildcat—Yazoo County

Joe Dawson 1 McGraw Curran Lumber Co., NW NW 19-11n-3w, T.D. 6,010 ft., dry, top Wilcox 2,033 ft., top Midway 4,150 ft., top Selma chalk 5,036 ft., top Eutaw 5,178 ft., no shows.

Tinsley—Yazoo County

Magnolia 3 J. J. Milner, NW SW 6-10-2, 425 bbl., Perry sand, C.P. 100 lb., T.D. 5,318 ft.

Union 1 J. G. Harris, NW NW 19-10-2, 560 bbl., 18/64-in. choke, Woodruff sand 4,842-4,923 ft., 7-in. casing 4,965 ft., perf. 4,896-4,922 ft.

ALABAMA WILDCATS

Colbert County

Mellen & Gear 1 Alsobrook, C S½ SW NW 10-4s-15w, T.D. 1,048 ft., S.D., making small amount gas.

Fayette County

B. L. Fillingame 1 Ala. Educational Ass'n., NW SW 3-16s-12w, S.D. 970 ft.

Franklin County

E. O. Heath, Jr. 1 W. O. Hester, SW SW 4-6s-12w, S.D. 85 ft. (cor.).

Lawrence County

D. V. Mann et al 1 W. R. Jackson, NE NE NE 30-7-6, last report 1,660 ft., no report.

Madison County

J. L. Caldwell et al 1 McCord, NW SE SE 30-1s-2e, drilling 107 ft.

Marion County

Seaboard Oil Co. 1 Clarke et al, SE SW 28-11s-14w, last report 2,670 ft., reported small show oil or gas, S.D.

Mobile County

Lilley & Temple (formerly McClanahan) 1 J. R. Lockhart, SE NW SW 24-7s-3w, T.D. 6,707 ft., S.D.

Morgan County

F. W. Rohwer 1-B Karl Hough, 2-6s-1w, last report 267 ft.

Walker County

Champlin Oil & Ref. Co. 1 Galloway Coal Co., 12-13s-10w, last report 2,363 ft., fishing for tool.

FLORIDA WILDCATS

Dade County

William B. Blanchard et al 1 Everglades, SW SW SW 31-53s-35e, last reported depth 1,300 ft., show gas, preparing to set casing.

Grapeland Gas Field Development

The Grapeland gas field in Houston County, eastern Texas, undergoing a steady development program during the past 1½ years, is rapidly becoming an important source of gasoline, kerosene, and gas-engine oil in East Central Texas. The field, opened in 1938, now has 20 wells producing gas and distillate and there are five recycling plants active in the field. The plants are owned by American Liberty Oil Co., Lone Star Gasoline and Trinity Gas Corp. partnership, and Gasoline Production Co., respectively. It is estimated that the three plants, operating 24 hours, process approximately 170,000,000 cu. ft. of gas daily, which yields approximately 4,000 bbl. of distillate. The dry gas is returned to the Woodbine sand through four injection wells. Additional equipment for the manufacture of butane is being installed at two of the plants. The area's possibilities are very great as there are now only 20 wells completed and about 10,000 acres of gas and distillate area proven or semiproven.

LEGAL

Department of the Interior, United States Land Office, Las Cruces, New Mexico. Notice is hereby given that a lease of the oil and gas deposits in the following described lands is offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in General Land Office Circular 1386, at a sale to be held in the office of the Register of the District Land Office at Las Cruces, New Mexico, at 10 a.m. on October 14, 1940: E½ SE¼ Sec. 15, T. 17 S., R. 32 E., N.M. P.M., New Mexico, containing 80 acres, in the Baish oil and gas field. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid, and file a showing of qualifications to receive the lease, required by section 7 of Circular 1386. The remaining four-fifths, together with the annual rental in advance at the rate of $1 per acre, must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

DON'T LET TUBING SLAM-BANG IN THE WELL

Protect it with

PATTERSON-BALLAGH TUBING PROTECTORS

Tubing, without protection, takes a terrific beating in the well. Cushion its contact by use of Patterson-Ballagh Tubing Protectors. Made of molded, reinforced plastic, fabricated onto the collar. Gas and oil-resistant.

See Composite Catalog

PATTERSON-BALLAGH CORPORATION

LOS ANGELES • HOUSTON • NEW YORK CITY

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1940 High	1940 Low	Week ended Sept. 21 High	Week ended Sept. 21 Low	Week ended Sept. 21 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
58½	38½	48½	47¾	48½	Amerada Corp.	788,675	N.P.	50cQ	7-31-40	$2.00	$1.56	$2.07	74½	50	78	55
27⅛	18¼	21⅞	21	21⅜	Atlantic Refining	2,663,999	$25	25cQ	6-15-40	1.00	1.66	1.40	24¾	18⅛	27⅜	17¾
16⅝	8½	10	10	10	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.25	1.39	—.85	21	10¼	23¾	12⅛
13⅜	7⅛	8¼	8	8¼	Barnsdall Oil Co.	2,558,779	$5	15c	9-9-40	.90	.76	1.26	19½	11⅛	21⅜	10⅛
8⅛	5½	6⅜	6⅛	6¼	Consolidated Oil Corp.	13,751,726	N.P.	20cQ	8-15-40	.80	.55	.55	9⅞	6½	10¾	7
25	16⅛	18⅝	18	18⅛	Continental Oil of Delaware	4,682,572	$5	25cQ	9-30-40	1.00	1.35	1.10	31½	19⅞	35⅝	21¼
6⅞	3⅜	3⅞	3⅝	3⅝	Houston Oil	1,098,618	$25		10-17-30	....	.43	.83	9⅜	4½	9⅜	5
14⅜	9	10⅝	10	10¼	Lion Oil Refining	435,815	N.P.	25cQ	10-10-40	1.00	1.50	2.09	18½	10	25½	15⅝
17⅝	11½	13	12⅝	13	Mid-Continent Petroleum	1,857,912	$10	40c	6-1-40	.60	1.42	.56	18	11⅛	22⅝	12¼
11	7⅛	10¼	8¼	10¼	Mission Corporation	1,378,645	$10	40c	12-15-39	.65	.87	1.04	14⅞	8¾	17¾	10⅝
9¾	4⅝	5⅞	5⅝	5⅝	National Supply	1,155,517	$10	....	12-22-37	....	—.87	—.79	15½	5⅝	23	12½
8¾	5⅜	6¼	6	6⅛	Ohio Oil Co.	6,563,377	N.P.	20c	6-15-40	....	—.10	.25	10½	6	14⅞	8⅞
8¼	5⅝	5¼	5⅞	6¼	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.40	.81	1.22	11⅞	7	15⅞	10¼
10½	6¾	..	..	..	Pan American Pet. Trans.	4,702,945	$5	....	12-31-37	....	1.10	.08	8¾	5	9¼	6¼
41¾	27⅛	37	35½	35½	Phillips Petroleum	4,449,052	N.P.	50cQ	8-31-40	2.00	2.21	2.03	46½	31¼	44⅝	27¼
22⅜	15	17	16½	16½	Plymouth Oil Co.	1,038,633	$5	35cQ	9-30-40	$1.40	2.38	2.59	24	17⅛	25⅜	15
11½	7	7½	7¼	7⅜	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	1.11	.38	11⅜	6⅛	13½	8¼
8⅜	5⅞	8¼	8	8¼	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.65	.51	10¼	6⅝	9⅞	5
20	11	12½	12⅜	12½	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-14-40	1.00	1.40	1.52	24⅜	15½	27½	15½
13⅛	7⅝	9	8⅝	8⅝	Shell Union Oil	13,070,625	N.P.	25c	7-16-40	.50	.77	.72	17¼	9⅞	18⅜	10
23¼	12¼	17½	17	17¼	Skelly Oil	995,349	$15	25c	8-28-40	.75	1.99	2.27	29½	15½	34⅜	18½
12½	7⅛	9	8¾	9	Socony-Vacuum	31,206,071	$15	25cSA	9-16-40	.50	1.10	1.29	15⅛	10¼	16⅜	10¾
26⅛	17⅝	18½	17¾	18	Standard Oil of California	13,003,953	N.P.	25cQ	9-16-40	1.10	1.38	2.22	33⅝	24¼	34⅞	25⅛
29	20¾	24¾	24¼	24½	Standard Oil (Indiana)	15,272,020	$25	50c†	9-16-40	1.25	2.23	1.82	30	22¾	35½	24¾
46½	29⅞	35⅞	34	34⅞	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-15-40	1.25	3.26	2.86	53½	38	58⅜	39¾
65⅞	46¾	49	48½	49	Sun Oil	2,434,863	N.P.	25c*	6-15-40	1.00	2.74	1.07	66	45¾	65⅛	45
2½	1¼	1⅜	1¼	1⅜	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.04	.24	3⅝	1⅜	4¼	1⅜
47⅝	33	36½	35½	36½	Texas Corp.	10,876,139	$25	50cQ	7-1-40	2.00	3.02	2.13	50¾	32½	49⅝	32⅝
4¼	2½	3	2⅞	3	Texas Gulf Producing Co.	888,146	N.P.	10c	6-15-40	.20	.69	.86	5¾	3¼	5⅞	2⅝
8⅝	5½	6⅛	6	6⅛	Texas Pacific Coal & Oil	888,236	$10	10c	9-3-40	.40	1.00	1.16	11⅜	7	12½	7
12	8¾	9½	9⅜	9⅜	Tide Water Associated	6,371,827	$10	15c	9-3-40	.80	1.05	1.28	14¼	9½	15¾	10⅛
17½	12	13⅛	12¾	13⅜	Union Oil Co. of California	4,666,270	$25	25c	8-10-40	1.05	1.25	1.47	19¾	15⅛	22½	17⅛
29⅞	22¾	27⅜	27⅛	27⅜	Union Tank Car Co.	1,177,381	N.P.	45c	9-3-40	1.30	2.07	1.16	24¼	20⅛	23½	20
3⅝	1⅞	..	..	..	Wilcox Oil & Gas	470,768	$5	10c	2-15-40	....	.77	.52	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1½ per cent in stock. —Deficit.

New York Curb Exchange

1940 High	1940 Low	Week ended Sept. 21 High	Week ended Sept. 21 Low	Week ended Sept. 21 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
10¾	4½	5¼	5	5	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	$0.14	—.22	11¾	5½	11¾	5
3¼	1⅜	1⅞	1¾	1¾	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	....	—.95	—.14	7¼	2½	10¼	4⅞
43	28	37½	37½	37½	Buckeye Pipe Line Co.	200,000	$50	$1	9-14-40	$2.50	3.13	2.36	34¾	26½	39	22½
117	95	103	101½	101½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-23-40	6.00	7.87	5.32	130	108⅝	128	97
6¾	4	6⅛	5⅞	6	Cities Service (new)	3,703,978	$10	....	6-1-32	....	.68	.23	9¼	4¼	11	5⅜
2⅛	1	1	1	1	Cosden Petroleum	465,332	$1	....	.....	.....	....	.....	2¼	½	2⅝	⅞
24¼	11⅝	14	13½	13½	Creole Petroleum	6,974,356	$5	50cSA†	6-15-40	1.00	1.38	1.64	28	16¾	27½	17½
4⅜	2⅞	3½	3½	3½	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	.03	.69	7⅛	3⅝	10¼	5½
2	1¼	1⅛	1	1	Derby Oil & Refining	263,162	N.P.	....	.....	.....	—.37	—.91	2⅝	1½	3½	1½
31	23	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-40	2.00	.63	—.37	23	15½	31	16
39⅞	25⅛	31	29	31	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-40	2.00	1.69	1.43	45⅛	29¼	46⅞	33
68	47⅛	54½	53¼	54½	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-40	2.00	3.33	3.98	71	52½	72⅝	56
12⅜	5½	8⅛	7⅞	8⅛	Imperial Oil of Canada	26,965,078	N.P.	37½c†	6-1-40	1.00	.71	.96	17	11⅜	19½	14⅛
7⅜	3	3	3	3	Indiana Pipe Line	300,000	$7.50	10c	5-15-40	.50	.33	.47	7¼	5½	9⅜	6
19⅜	8¼	11⅞	11⅜	11⅜	International Petroleum	14,324,088	N.P.	75c	6-1-40	1.75	1.19	1.98	27½	17	31¼	21
2⅜	1⅝	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	....	.06	.14	3⅜	2⅛	5	2⅛
10⅜	7⅝	9⅛	9	9⅛	Lone Star Gas	5,518,347	N.P.	20c	7-22-40	.70	.98	.88	10½	7⅛	10⅜	6⅝
6¼	3¾	4⅝	4¼	4⅝	Louisiana Land & Exp.	2,966,762	$1	10c	9-14-40	.35	.22	.45	7¾	4	9⅜	6½
17	10	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-40	1.00	1.52	2.28	17	14½	24	16
8½	6½	..	..	..	Midwest Oil Co.	998,474	$10	45c	6-15-40	.90	.99	.93	8¾	6⅝	9¾	6⅝
6¼	4⅞	5⅛	5⅛	5⅛	Mountain Producers	1,593,584	$10	30cSA	6-15-40	.60	.70	.62	6	4⅞	5¾	4½
13⅛	10	11½	11	11⅜	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-40	1.00	.95	.84	14	11¼	14⅝	11½
12½	8¾	10	9½	10	National Transit	509,000	$12.50	50c	6-15-40	.85	.91	.88	9½	7¼	9¼	6½
1¼	¾	1⅛	1⅛	1⅛	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1¾	1	2⅝	1½
7⅜	5¼	6	6	6	New York Transit	100,000	$5	25c	9-20-40	.40	.88	.16	6	4	4½	3½
9⅜	6	..	..	..	Northern Pipe Line	120,000	$10	40c	6-1-40	.30	.31	.24	7	4½	6	4
5½	2½	3¼	3	3	Pantepec Oil	2,856,872	$1	....	.....	.....	....	....	7⅝	4	7⅜	3½
3¼	1¼	1⅝	1⅝	1⅝	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.70	.17	5	1¼	4½	1⅝
2½	1½	2⅜	2⅜	2⅜	Ryan Consolidated	298,931	N.P.	....	.....	.....	.16	.29	3	1⅞	4	2⅛
11¾	4⅞	5⅞	5⅞	5⅞	Southern Pipe Line	100,000	$10	25c	9-3-40	.30	.25	—.27	4⅞	3½	5⅜	3¼
44	28	34½	34½	34½	South Penn Oil	1,000,000	$25	37½c	9-27-40	3.00	2.84	1.44	40½	26¾	39	28¾
35	21	21	21	21	Southwest Penna. Pipe Lines	35,000	$50	50c	9-16-40	2.00	2.06	—.41	23	18	22¼	16½
20⅞	16½	18⅜	18⅜	18⅜	Standard Oil of Kentucky	2,604,790	$10	25c	9-14-40	1.30	1.53	1.45	20⅛	17¼	18¾	15
41⅜	26¼	31⅞	31¼	31⅞	Standard Oil of Ohio	753,740	$25	25c	9-14-40	1.50	6.64	1.81	32¾	17	22¾	16¼
2	1⅜	1⅜	1⅜	1⅜	Sunray Oil	1,975,876	$1	5c	5-1-40	.10	.25	.23	2⅜	1⅜	3¼	2
3	2	2⅝	2⅝	2⅝	Texon Oil & Land	936,024	$2	10c	9-30-40	.10	.49	.56	4	2⅝	5¼	3½
3⅜	2	2⅛	2	2⅛	Transwestern Oil Co.	750,000	$10	....	.....	....	—1.42	.12	6	2½	5¼	2⅝
2⅛	1/16	1¼	1⅛	..	United Gas Corp.	7,818,959	$1	....	.....	....	—.55	—.51	3⅜	1½	5¼	2⅝

†Includes extras. —Deficit.

Personal Paragraphs

L. N. CRIM, Kilgore, Tex., civic leader, has been named chairman of the Kilgore Oil Carnival, which will celebrate October 10-12, the tenth anniversary of discovery of oil in East Texas.

C. L. MAGUIRE, Mount Pleasant, Mich., has been elected chairman of the board of directors of the Central Michigan Community Hospital. The organization functions in connection with the building of the hospital, made possible by a grant of $75,000 from the Commonwealth Fund of New York, plus $60,000 in contributions from residents of Isabella County and vicinity.

A. J. FRANKS, Sherwood Refining Co., Warren, Pa., addressed the Titusville, Pa., Lions Club on "Your Stake in Private Enterprise."

BERNARD H. LASKY, engineer and geologist of Houston, Tex., has returned to Houston following an extended business trip to California.

RALPH O. DIETLER, vice president of Stanolind Oil Purchasing Co., has been elected president of the Southwestern Art Association, which administers Philbrook Art Museum in Tulsa.

EARL WARD, agent of Union Oil Co., Oroville, Calif., who was recently elected president of the Rotary Club in that town, is recuperating in St. Luke's Hospital in San Francisco and expects to be back home shortly.

D. K. YORATH, an official and director of the Canadian Western Natural Gas, Light, Heat & Power Co., has been granted leave of absence to become resident manager of the Flying Training School at Lethbridge, Alta.

DR. J. HUENER, of New Orleans, La., and formerly assistant state geologist for Louisiana, has been appointed state geologist succeeding CYRIL K. MORESI who recently resigned.

JOHN A. BROWN, president, Socony-Vacuum Oil Co., Inc., declared that "an industry that has the everyday job of providing 33,000,000 cars, trucks, tractors and buses with lubricants and gasoline should be able to handle all military requirements, even on the basis of wartime activity, without much difficulty" in a letter to stockholders accompanying a 25-cent dividend.

L. H. ATWELL, comptroller of the Humble Oil & Refining Co., Houston, Tex., since 1919 retired from his official duties last week. GUY CARROLL was appointed to succeed Mr. Atwell, and J. K. VAUGHAN was appointed assistant comptroller.

J. E. HARRINGTON, of General Petroleum Corp. with offices in Vernon, Calif., is chairman of a stag gathering to be held at Barneson Park in Tonner Canyon. Barneson Park is named in honor of Capt. John Barneson, founder and former president of General Petroleum Corp., now an affiliate company of Socony-Vacuum.

W. G. SKELLY, president of Skelly Oil Co., Tulsa, has been made a member of the board of National Aeronautic Association.

NORMAN O. JOHNSON, president of the American Mexican Petroleum Co., has recently been appointed secretary and treasurer of the Continental Hotel Service Corp., Chicago.

F. V. MALLERY, retired employe of the United Natural Gas Co., and Mrs. Mallery, marked their sixtieth wedding anniversary at their home near Cochranton, Pa., September 22. Mr. Mallery, who resided in Oil City, Pa., for many years, was the Venango County member of the state House of Representatives for several terms.

R. E. STEWART, geologist and petroleum engineer who maintains offices at Rincon, Calif., blinked his eyes the other day and found he was wide awake. He regularly watches the Daylight Limited pass his office each afternoon at 1:30. Recently he looked out and the engine and tender of the Noon Daylight was speeding toward San Francisco but no cars were in sight. Later the engine backed up and found the train about 3 miles down the track. The fireman said to the engineer, "Don't look now, but there's no train behind us." Mr. Stewart vouches for this story.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The secretary of the interior has requested the superintendent of the Five Civilized Tribes to investigate and ascertain why the price of Healdton oil is only 30 cents a barrel.

T. Frank Algeo, of Bartlesville, Okla., who has returned to the United States after spending 3 years in Peru, says daily oil production in the South American country now averages 3,000 bbl.

Application for an injunction restraining future drilling in the Wyoming fields has been filed in District Court at Cheyenne by T. W. Gregory, U. S. attorney general. The action is directed against the Ohio, Midwest, and Grass Creek companies.

20 YEARS AGO

Annual production of oil in Texas has increased from 166 bbl. in 1889 to more than 96,000,000 bbl. in 1919 and it is estimated 1920 production will pass the 100,000,000-bbl. mark, according to a statistical report.

There is much excitement in Holbrook County, Arizona, where oil was found at 430-49 ft. in a test which was begun as a water well. It is being estimated good for 5 bbl. of oil daily.

10 YEARS AGO

Capt. Eddie Rickenbacker, World War ace, speaking at the annual meeting of the National Petroleum Association in Atlantic City, visualized 50,000,000 automobiles in operation over a system of super highways in the United States by 1950, and predicted the aviation industry in time will become one of the petroleum industry's biggest customers.

Despite a good showing of oil in the C. M. Joiner wildcat in Rusk County, East Texas, some geologists and oil men believe the Woodbine sand "fingers" out in that area and prospects are slim for a Woodbine sand pool that far east.

The Oklahoma City field was extended ¼ mile westward by a 35,000-bbl. producer.

P. O. TETER, Tulsa, has been named district superintendent of the East Texas district of Empire Pipe Line Co. He succeeds N. G. MOORE, who resigned.

C. M. DAVISON, manager of lubricating-oil sales, Standard Oil Co. of New Jersey, was host to a large group of oil men at his annual clambake on Long Island Tuesday, September 17.

RAYMOND T. NELSON, Southwest Texas district scout for the Superior Oil Co. of California, was recently elected president of the Corpus Christi Oil Scouts and Landmen's Association.

DR. RUDOLPH SCHIDER, geologist, Asiatic Petroleum Co., and G. K. KAUFMAN, chief geologist, Standard Oil Co. of Venezuela, sailed recently from New York to Venezuela.

HAROLD D. PARTRIDGE, manager of purchases for Indian Territory Illuminating Oil Co., Bartlesville, Okla., is reported to be gaining health and strength after a severe rundown condition. He is now at Hot Springs, Ark., having an enforced vacation.

M. L. HAIDER, production engineer for the Standard Oil Co. of New Jersey, renewed acquaintances in the Tulsa offices of the Carter Oil Co. last week. Mike says he has been handed a broad variety of problems in his new work.

EDWIN LUCAS, who recently completed 25 years' uninterrupted service with Standard Oil Co. in the pipeline and scouting departments at Santa Maria and Los Angeles, is enjoying the 6-week vacation allowed by that company upon completion of a quarter century.

DAVE N. BALZER, Bakersfield, Calif., operator, was a recent visitor in Albuquerque and other New Mexico points where he has oil interests. He was returning to the Pacific Coast from Minnesota.

M. T. FAIRCHILD, formerly of Bartlesville, Okla., is the new assistant superintendent of the Ponca City district of Empire Pipe Line Co., succeeding J. W. FAGAN, who was transferred to the Illinois district.

JACK BARCKLOW, for the past 3 years in charge of geological departments for Deep Rock Oil Corp.'s North Texas district office in Wichita Falls, Tex., resigned last week to accept a position with the Lane-Wells Co., of Oklahoma City, Okla.

J. L. LeBLEU, formerly assistant superintendent of Cosden Petroleum Corp.'s large refinery at Big Spring, Tex., has been made refinery superintendent. He succeeds E. W. POTTER who resigned last week after being with the company since 1929.

W. A. MONCRIEF, independent operator of Fort Worth, Tex., has been named general chairman of convention arrangements for the Texas-Mid-Continent Oil and Gas Association annual convention at Fort Worth October 31 through November 2.

JESS ROGERS, formerly district geologist for Texas Co. in Midland, Tex., has been transferred to the Texas Panhandle where he will be stationed at Pampa, Tex. He replaces BEN PILCHER who was transferred to the Texas Co.'s office in Fort Worth.

International Oil Man

M. R. Gross, treasurer of Richfield Oil Corp., Los Angeles, Calif., is a transplanted easterner. He was born in Paterson, N. J., and was educated in the East. He has the background of an international oil man. Entering the service of the Sinclair organization in 1919 he has spent a large part of his 21 years of service outside the United States. He represented the company in Cuba, Belgium, Holland, England, France and Germany. This experience gave him valuable first-hand information on foreign oil conditions.

M. R. GROSS

He moved to California in 1932 when the Consolidated Oil Corp. (Sinclair) acquired control of the Rio Grande Oil Co., an independent producing, refining and marketing organization operating in the West Coast area. Mr. Gross became secretary and treasurer of the company.

Later the Rio Grande company was merged with the Richfield Oil Corp., continuing under the control of the Consolidated company, and Mr. Gross was made treasurer of the company. Since that time the Richfield operations have been greatly expanded and now constitute one of the major units of California and West Coast states.

Mr. Gross' major interests are in the financial and accounting divisions of the company's operations. He is a certified public accountant registered in the State of New Jersey. His principal hobby is golf.

EDWARD L. STEINIGER, vice president of the Venezuela Petroleum Co., and Mrs. Steiniger sailed last week for Venezuela.

EARNEST B. WILSON has joined the Hogg Oil Co., of Houston, Tex., as chief geologist. Mr. Wilson was formerly chief assistant to STANLY GILL, Houston consulting engineer.

LLOYD LOCHRIDGE, of the Sinclair Refining Co., of Wellsville, N. Y., has been elected a director of the Pennsylvania Grade Crude Oil Association. He succeeds HARRY L. LEWIS, of the Conewango Refining Co., who resigned.

R. P. BROUTHERTIN, of the Texas Co., has been named chairman of the revived Wichita Falls, Tex., chapter of the American Petroleum Institute. GORDON STINE was chosen first vice chairman; W. H. ROUZER, second vice chairman, and JAMES GIBBS, secretary-treasurer.

G. H. BLANKENSHIP, Centralia, Ill., operator and discoverer of the Cordes pool, was a recent business visitor in Tulsa, where he conferred with R. C. QUIETT, Shawnee, Okla., geologist and operator, regarding joint oil interests in Oklahoma and West Texas.

GEORGE A. HILL, JR., president of the Houston Oil Co., will address the fall meeting of East Texas chapter of the American Petroleum Institute at Kilgore, Tex., October 9, the program of which will commemorate the tenth anniversary of the discovery of the East Texas field. Mr. Hill's subject will be "The Place of Petroleum in the National Defense."

L. V. NICHOLAS is president of the recently formed Oil Institute of Michigan, headquarters of which are in Grand Rapids. Mr. Nicholas is former president of Warner-Quinlan, Cities Service subsidiary. In addition to Mr. Nicholas, the board of directors comprises the following: WALTER E. ANDERSON, Naph-Sol Refining Co., Muskegon; BEN J. SKINNER, Midwest Refineries, Inc., Alma; C. L. MAGUIRE, Roosevelt Oil Co., Mount Pleasant, and REID BRAZELL, Leonard Refineries, Inc., Alma. EVA ARNSTEIN is secretary-treasurer.

Shifts: ROBERT E. STEINER, engineer, Belridge Oil Co., from McKittrick, Calif., to San Luis Obispo, Calif.; C. F. SELLERS, geologist, Robert H. Ray, Inc., from Houston, Tex., to Laurel, Miss.; L. T. CONGER, geologist, Pure Oil Co., from Odessa, Tex., to Midland, Tex.; M. E. ROBERTS, geologist, Pure Oil Co., from Odessa, Tex., to Midland, Tex.; R. F. VAN CLEAVE, geologist, National Geophysical Co., from Oakdale, La., to De-Ridder, La.; R. C. QUINN, superintendent, Phillips Petroleum Co., from Rodessa, La., to El Dorado, Ark.; PAUL BUTHOD, engineer, Pure Oil Co., from Evanston, Ill., to Niles Center, Ill.; V. S. HOLLINGSWORTH, engineer, Hollingsworth Gas & Oil Corp., from Princeton, Ind., to Highland, Ill.; POWELL A. DENNIE, engineer, Shell Oil Co., Inc., from Oxford, Kans., to Wichita, Kans.; JOHN A. BAILEY, engineer, Shell Oil Co., Inc., from Covington, Okla., to Stroud, Okla.; J. W. BELL, purchasing agent, Moose Dome Oils, Ltd., from Calgary, Alta., Canada, to Winnipeg, Man., Canada.

WALLACE E. PRATT, director of Standard Oil Co. (New Jersey), visited Carter Oil Co. offices in Tulsa this week.

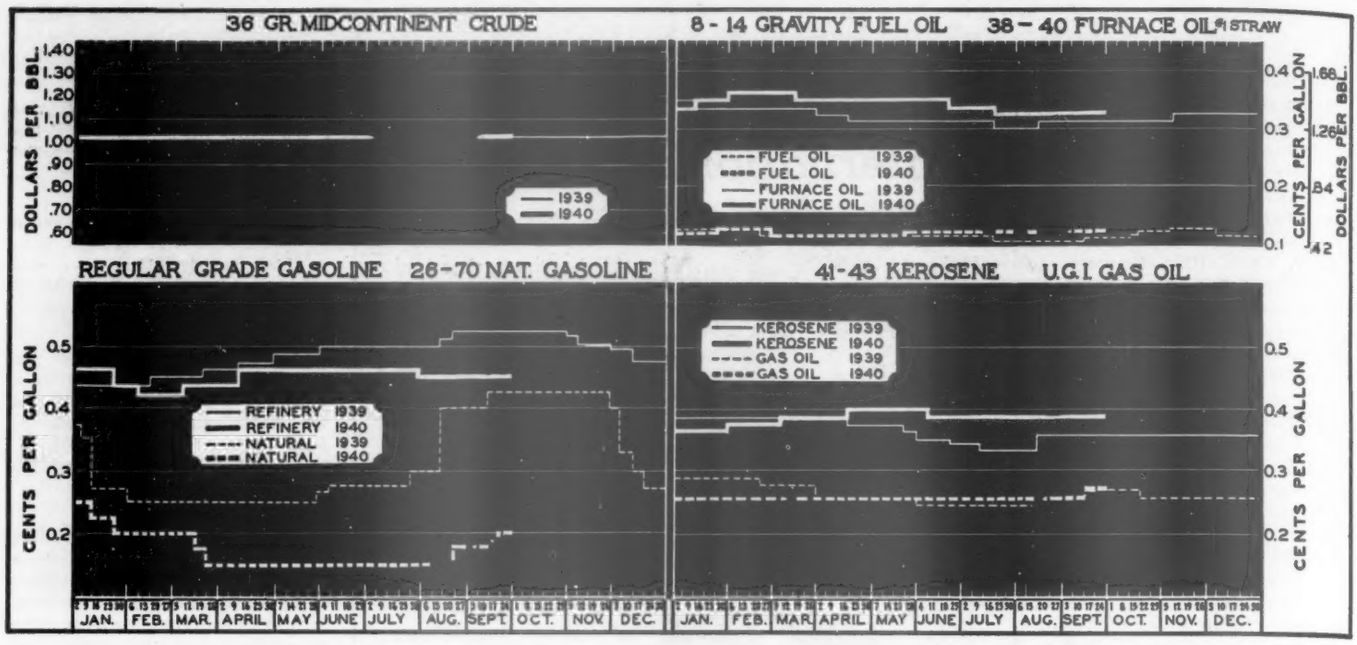
ROBERT E. ALLEN, consulting engineer of San Gabriel, Calif., has been appointed chairman of the Alberta (Canada) Conservation Board, succeeding W. F. KNODE, who resigned some months ago. C. W. DINGMAN, acting chairman, has tendered his resignation as a member of the board.

GEORGE McMAHON has been elected president of the British Columbia Royalty Dealers Association at Vancouver. HARRY E. BOORMAN is first vice president and H. J. BIRD second vice president. Directors are WILLIAM SCHARFE, R. A. BROSSARD, and ROY W. BROWNE, and the secretary is T. F. DAGGS.

W. K. WARREN, president, Warren Petroleum Corp., Tulsa, is chairman of the planning committee of the Tulsa Community Fund. RUSH GREENSLADE, vice president, Gulf Oil Corp.; RALPH O. DIETLER, vice president, Stanolind Oil Purchasing Co., and MARK S. PATTON are also identified with the drive.

J. R. BUTLER has been named manager of the Cotton Valley Operators recycling project in that field. Mr. Butler, formerly with Ohio Oil Co. in the field, will supervise operation of the cooperative project which is shortly to begin construction. An advisory committee to act in conjunction with the Operators Committee has been named, including W. F. DALTON, Hunt Oil Co.; ROY DAVIS, North American Oil Consolidated, Inc., and HOWARD DAVENPORT, Woodley Petroleum Co.

A professional advisory council of East Texas men has been named to serve the newly inaugurated 2-year oil-field-practices training course at Kilgore College. Among those on the council are: J. W. PITTMAN, Shell Oil Co., chairman; J. P. STRAIGHT, Cities Service Oil Co.; E. B. MILLER, JR., Tide Water Associated Oil Co.; W. S. MORRIS, East Texas Engineering Association; JOHN THOMAS, East Texas Refining Co.; WILLIAM WALKER, Magnolia Petroleum Co.; C. W. CURTIS, Independent Refining Co.; W. V. COUSINS, United Gas Pipe Line Co.; R. M. BRADBURY, Houston Oil Co.; M. L. BROWN, Sun Oil Co.; GUY CHRISMAN, Gulf Pipe Line Co.; C. P. EKAS, Magnolia Petroleum Co.; R. A. HARRIS, National Supply Co.; W. F. HYDE, Hercules Gasoline Co.; H. R. KANAUTH, Tide Water Associated Oil Co.; HARVEY LEE, Magnolia Petroleum Co.; and J. O. LYLE, Standard Machine & Tool Co.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Refinery Gasoline Demand in Group 3 Surprisingly Brisk for September

By H. STANLEY NORMAN

THE draft on refinery gasoline stocks in the Mid-Continent territory continued this week to exceed expectations. Prospects are that September will prove one of the summer's best months from a standpoint of motor-fuel demand in Group 3 territory.

There is no change in the quoted prices for refinery gasoline in the Group 3 territory, but the brisk demand prevailing is delaying the back pressure which is frequently felt in the late September market. Refiners report no particular resistance to currently quoted prices in their normal marketing channels. It is admitted, however, that failure of the gasoline-price curve to follow the vicissitudes of seasonal demand actually goes back to the beginning of summer.

Natural Gasoline Stronger

Gasoline prices have reacted in several other sections of the country not primarily for the reason that summer is ending but because refiners were unable to resist longer the pressure of diminishing exports. First to suffer from the early fall demand decline were the Atlantic and Gulf coastal markets, which are intimately related to exports.

Natural-gasoline prices continue their upward movement, particularly in Oklahoma and Kansas, although even the high side of the quotations are 2 cents per gallon or more below the market prevailing a year ago. Oklahoma manufacturers this week are quoting 2.25 cents per gallon for 26-lb. grade natural, an advance of 0.25 cent over the preceding week's market.

The advance in Oklahoma and Kansas has not been realized to its full extent in the Texas manufacturing districts because of a temporary situation. North Texas and Panhandle natural-gasoline manufacturers are quoting 1.75 cents per gallon for 26-lb. material, leaving a temporary spread of 0.5 cent between prices in those districts and the Oklahoma market, whereas, the margin is normally 0.25 cent.

There is considerable natural gasoline moving currently to the Corpus Christi refining district where a majority of the independent capacity is located. Most of the natural moving to the Gulf Coast is going into production of winter-grade motor fuel for coastwise shipment. There is no evidence available that export conditions have changed from those prevailing over the past several months.

Refined Oil Market Barometer

Heavy domestic demand for motor fuel continues. The interior market is resisting pressure that has not relented on the coastal price structure. Natural-gasoline prices in Oklahoma gained fractionally for the second consecutive week. The fuel-oil market is firm and gaining strength daily although higher stocks this fall are preventing a steep climb.

MID-CONTINENT. Volume of motor-fuel shipments exceeds expectations of refiners for the early-fall season.

GULF COAST. Coastwise movement of light fuel oils is gaining momentum. Winter-grade gasoline more active.

CALIFORNIA. Extraordinary efforts are currently necessary to prevent slump in gasoline market. Natural gaining strength.

PENNSYLVANIA. Wax prices gain quarter of a cent. Other products unchanged.

CHICAGO. Jobbers still active in spot-gasoline market. Fuels hold recent gains.

The most protracted recent period of dull natural-gasoline market conditions in the North Texas district ended only 3 weeks ago when orders from Gulf Coast refiners made their first appearance in quantity since the start of summer. In the interval of dull business rather substantial stocks were accumulated in the North Texas area, making it less responsive to improved market conditions. Also responsible for the tardy response of the North Texas market is the freight differential.

Distillate Supplies Scarce

Distillate fuel oils are offered sparingly in the Group 3 market at present quotations and the only reason that prices have not responded is that demand has not been made acute by cold weather. Jobbers in the Chicago territory have been making extensive investigation of the distillate fuel-oil supply situation in the Group 3 territory seeking to line up an assured source of material for the approaching winter.

Refiners are reluctant to commit their stocks and future production until they have obtained a clearer conception of what market conditions will prevail. Conditions of last winter in parts of the country when the spot distillate-fuel-oil market was 1 cent per gallon higher than the top contract figure are still fresh in the minds of refiners.

Residual fuel-oil prices are strong in the Chicago district and the limited movement from the Group 3 territory is currently bringing the top of the quoted range. Most Oklahoma, Kansas, and inland Texas refiners dispose of their heavy fuel-oil production under contracts with railroads serving their plants. The railroads this year are reported taking the maximum of their fuel-oil commitments leaving even less for open-market trading.

September Demand Lull Softens Most Products on East Coast

By J. P. O'DONNELL

NEW YORK, Sept. 24.—Practically every product on eastern refined-market lists exhibited weakness last week and there was little to indicate that trend would be corrected in the near future. The usual late September lull in demand accounted in the main for the weakness, but this factor was abetted by large inventories, particularly of gasoline and fuel oil, which also exerted a depressing effect.

Last year at this time the markets improved rapidly because of the anticipated war demand, and domestic fuel-oil consumption increased sufficiently in late September to revive the market. Gasoline prices, strong a year ago, have been exhibiting increasing weakness this year, and fuel oil, despite the imminence of the principal consuming season, is not only reported soft but may face reduced prices.

The early-season fuel-oil market is confronted with a new factor this year, that of unusually large stocks, and its effect on prices is evidently adverse. As was pointed out last week, eastern refineries not only have run more crude oil this year than last but have also increased their production of fuel oil, the distillate-fuel yield this year averaging about 4 per cent above that of last year. As a result of this policy the fuel-oil season this year will open with the highest stocks on hand of any season on record.

As of September 14, stocks of distillate fuel oil in the East Coast area aggregated 17,552,000 bbl., an increase of 320,000 bbl. for the second week of September. In contrast, stocks on September 16, 1939, were but 13,130,000 bbl. In addition to slowing price improvement, the high stocks of fuel oil are also delaying the usual increase in tanker rates at this time of the year.

Only four fixtures were reported in the tanker market last week: two in coastwise service and two from California to Japan. The rates on the Gulf-to-north-of-Hatteras fixtures remained unchanged from former levels: 18 cents for gasoline, 19 cents for kerosene and 20 cents for heating oil. The two California-to-Japan fixtures were reported made at $12.50 for clean and $11.50 for dirty vessels with the charterer paying the war-risk insurance in each instance. The tankers reported chartered for coastwise service were both clean vessels with one scheduled for late September and the other for early October loading.

However, despite the current slowness of the market, owners have shown no inclination to accept long-time charters. It is reported that charterers are willing to contract on yearly basis at from 20 cents to 30 cents per barrel but owners, anticipating better rates, are unwilling to do business even at the latter figure. Much of the movement between the Gulf and north Atlantic ports is reportedly being done in high-speed tankers with capacities in the neighborhood of 150,000 bbl. The high-speed vessels can make the voyage from the Gulf in 5 days, whereas older, slow-speed tankers require an average of 8 days.

Since the factor of tanker rates which was important in last year's high fuel-oil prices is being delayed this year and since current stocks of light fuel oil on the East Coast are almost 34 per cent higher than they were a year ago, improvement in the market is expected to be slow in developing this fall.

Weakness in gasoline in the East Coast area is likewise attributed to large inventories, though demand has fallen short of expectations and there have been prolonged disturbances in retail markets. According to some reports there was an improvement in the retail situation last week when a number of metropolitan stations which had been selling regular gasoline at 7 gal. for 98 cents or $1.05 changed their postings to 6 gal. for 93 cents. However, there were still many stations selling regular grade at 7 gal. for $1.05 and one large marketing company reduced its tank-wagon price in Brooklyn a half-cent to 6.5 cents. Half-cent tank-wagon reductions were made at Manchester, Vt., and a full cent at Portland, Me., while the New Haven price was raised a cent by the same marketer.

Further evidence of the weakness in gasoline was seen in quotations of suppliers in the New York Harbor area. It was reported that 72-74-octane material could be obtained at 4⅝ cents in tank-car lots and at 4½ cents in barges. Similar conditions obtained at other points along the coast with prices on motor fuel of the same grade ranging from 5¼ cents at Philadelphia and Boston to 5½ cents at Baltimore and 5¾ cents at Charleston.

With ample stocks of both gasoline and fuel oil on hand and no substantial gains in demand indicated, observers believe that the only solution to the depressed market situation in the East is a curtailment of refinery operations. There was no indication of curtailment impending, however, and in the second week of September, runs in the East Coast area averaged 605,000 bbl., up 22,000 bbl. from the previous week.

Other products also exhibited weakness during the past week. The decline in Pennsylvania Grade lubricating oils, which a few weeks ago gave some evidence of being arrested, was resumed with lower prices being quoted for cylinder stocks and with bright stock showing a sympathetic weakness. Cylinder stocks were reported uniformly 1 cent lower while interrefinery trading in bright stocks was reported being done at prices substantially below those quoted jobbers and distributors. One large interrefinery transaction was re-

(Continued on Page 119)

Gulf Coast Markets

HOUSTON, Tex., Sept. 24.—Increasing firmness was evident in both light and heavy fuels despite the fact no important new demand has materialized. The firmness has occasioned no boost in quotations but suppliers show no inclination to make any concessions. Future business is being quoted at prices slightly above current market conceptions of price.

Light fuels apparently are scarce with stocks comparatively low considering prospects of good demand. Steady movement of these grades to the East Coast is keeping stocks on the Gulf Coast in balance, although it is reported materials are accumulating at points of destination. This, however, is considered normal in that eastern suppliers generally seek to add to their stocks at this time in anticipation of winter requirements.

Heavy fuels are more plentiful but supplies are not pressing enough to force distress material on the market. The majority of sellers still are asking 85 cents for Bunker C for cargo movement, although buyers find no difficulty in finding material at 80 cents. Fuel for ships' bunkers also is low at 80 cents with demand steady.

There still is nothing in sight that might lead to any improvement in the gasoline market. What few scattered sales are made are reported at prices below the quoted market, although sellers continue to list quo-

(Continued on Page 119)

A.P.I. Weekly Refinery Statistics

Week Ended September 21, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	21,114,000	12,381,000	17,779,000	604,000
Appalachian	91.0	3,224,000	561,000	554,000	123,000
Ind., Ill., and Ky.	90.2	13,723,000	3,371,000	5,627,000	609,000
Okla., Kans., and Mo.	76.9	6,154,000	2,208,000	1,691,000	278,000
Inland Texas	59.6	1,562,000	1,511,000	394,000	123,000
Texas Gulf	85.3	10,595,000	7,355,000	7,474,000	856,000
Louisiana Gulf	97.6	2,750,000	1,778,000	1,249,000	114,000
N. Louisiana and Ark.	51.5	461,000	528,000	334,000	44,000
Rocky Mountains	56.0	913,000	504,000	126,000	59,000
California	87.3	15,479,000	75,874,000	10,310,000	505,000
Total reported	85.3	75,975,000	106,071,000	45,538,000	3,315,000
Est. unreported	.....	6,985,000	2,120,000	1,625,000	365,000
*Est. total	.....	82,960,000	108,191,000	47,163,000	3,680,000
*Est. total previous wk.	.....	83,300,000	109,135,000	46,648,000	3,580,000
*Sept. 22, 1939	.....	71,440,000	114,637,000	37,967,000	3,570,000

*Bureau of Mines basis.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended September 14, 1940	262,475,000 barrels
Week ended September 7, 1940	262,716,000 barrels
Week ended September 16, 1939	233,016,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of September 24, 1940

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Chicago, Ill.	15.6	13.6	4.5	10.0
Decatur	14.6	13.1	4.5	9.5
Joliet	15.6	14.1	4.5	10.0
Peoria	15.6	13.2	4.5	10.0
Quincy	15.4	13.9	4.5	9.8
Davenport, Ia.	15.6	14.1	4.5	‡10.0
Des Moines	15.4	13.9	4.5	‡9.8
Mason City	15.8	14.3	4.5	‡10.2
Duluth, Minn.	16.4	14.9	4.5	10.8
Mankato	16.0	14.5	4.5	9.0
Minneapolis	16.0	14.2	4.5	10.4
LaCrosse, Wis.	17.0	15.5	5.5	10.4
Green Bay	17.4	15.9	5.5	10.3
Milwaukee	16.8	15.3	5.5	10.2
Detroit, Mich.	14.1	12.6	4.5	7.6
Grand Rapids	13.2	11.2	4.5	9.0
Saginaw	14.9	13.4	4.5	9.1
Evansville, Ind.	16.6	15.1	5.5	†9.8
Indianapolis	16.8	14.8	5.5	†10.0
South Bend	16.8	15.3	5.5	†10.0
Fargo, N. D.	18.2	16.7	5.5	11.6
Huron, S. D.	17.5	16.0	5.5	10.9
Kans. City, Mo.*	14.8	13.3	4.5	8.0
St. Louis*	15.2	13.2	4.5	9.0
St. Joseph	14.9	13.0	4.5	7.9
Wichita, Kans.	13.8	12.3	4.5	7.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective Sept. 3, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents; 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.75 cents; 400-799 gal., 4.75 cents; 800 gal. and over, 4.5 cents. Stanolex fuel oil B, 1-399 gal., 5.75 cents; 400-799 gal., 4.75 cents; 800 gal. and over, 4.5 cents. Stanolex Bunker C fuel oil, 1-999 gal., 4.5 cents; 1,000 gal. and over, 3.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			
	Cons'r tank wag.	Divided dlr.	Incl. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
Atlantic City	11.50	12.60	4.5	7.4
Newark	11.50	12.60	4.5	7.4
Annapolis, Md.	13.35	14.35	5.5	9.5
Baltimore	12.75	13.75	5.5	8.5
Cumberland	14.15	15.15	5.5	10.0
Washington, D.C.	11.00	12.00	3.5	9.5
Danville, Va.	14.95	17.45	6.5	11.0
Norfolk	13.75	16.25	6.5	10.5
Petersburg	14.05	16.55	6.5	11.2
Richmond	14.05	16.55	6.5	10.5
Roanoke	15.25	17.75	6.5	11.0
Charles'n, W. Va.	14.55	17.05	6.5	12.6
Parkersburg	13.85	16.35	6.5	11.2
Wheeling	14.85	17.25	6.5	11.8
Charlotte, N. C.	16.90	17.00	7.5	11.8
Hickory	17.45	18.95	7.5	12.3
Mount Airy	17.30	18.80	7.5	12.2
Raleigh	16.65	16.50	7.5	11.5
Salisbury	16.95	16.00	7.5	11.9
Charleston, S. C.	14.75	17.25	7.5	9.75
Columbia	15.60	18.10	7.5	11.5
Spartanburg	16.30	18.80	7.5	12.7

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at a time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r tank wag.	Net dlr.	Incl. tax	tank wag.
Atlanta, Ga.	15.0	15.0	7.5	10.0
Augusta	17.0	17.0	7.5	10.0
Macon	15.0	15.0	7.5	9.0
Savannah	16.0	16.0	7.5	9.0
Birmingham, Ala.	16.0	16.0	8.5	9.0
Mobile	15.5	15.5	9.5	8.0
Montgomery	18.5	18.5	9.5	10.0
Jackson, Miss.	16.0	16.0	7.5	9.0
Vicksburg	16.0	16.0	7.5	9.0
Jacksonville, Fla.	15.0	15.0	8.5	8.0
Miami	15.5	15.5	8.5	8.0
Pensacola	17.5	17.5	9.5	8.5
Tampa	15.0	15.0	8.5	8.0
Lexington, Ky.	14.5	14.5	6.5	9.5
Covington	14.5	14.5	6.5	9.5
Louisville	15.0	15.0	6.5	9.0
Paducah	14.0	14.0	6.5	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax, and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
Philadelphia, Pa.	12.5	13.5	5.5	10.0
Pittsburgh	13.0	15.0	5.5	10.5
Allentown	13.0	14.5	5.5	10.5
Erie	12.5	15.0	5.5	10.0
*Scranton	12.5	14.25	5.5	10.5
Altoona	13.0	15.0	5.5	10.5
Dover, Del.	...	14.0	5.5	10.5
Wilmington	...	13.5	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank truck	Serv. sta.	Incl. tax	tank wag.
San Francisco	16.5	17.5	4.5	11.5
Los Angeles	16.0	17.0	4.5	10.0
Fresno, Calif.	17.5	18.5	4.5	12.5
Phoenix, Ariz.	20.5	21.5	6.5	*17.5
Reno, Nev.	19.5	20.5	5.5	13.5
Portland, Ore.	19.0	20.0	6.5	13.5
Seattle, Wash.	19.0	20.0	6.5	13.5
Spokane	20.5	21.5	6.5	16.5
Tacoma	19.0	20.0	6.5	13.5

*Includes 5-cent state tax.

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
Albany	11.7	12.5	5.5	7.3
*Met. New York, Manhat., Bronx, Queens, Brklyn., Staten Island	11.8	13.0	5.5	7.6
Buffalo	12.6	13.6	5.5	7.5
Rochester	13.1	14.2	5.5	8.1
Syracuse	13.0	11.9	5.5	8.2
Portland, Me.	11.2	12.3	5.5	7.4
Manchester, N.H.	12.1	12.5	5.5	8.5
Burlington, Vt.	12.4	14.0	5.5	7.9
Boston, Mass.	10.2	10.5	4.5	7.7
Worcester	10.7	11.7	4.5	7.8
Hartford, Conn.	11.0	11.5	4.5	7.5
New Haven	10.9	11.0	4.5	7.0
Providence, R. I.	10.1	11.5	4.5	7.7

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Tank wag.	Incl. tax	tank wag.
Denver, Colo.	13.5	5.5	10.5
Grand Junction	16.5	5.5	12.5
Pueblo	15.5	5.5	9.0
Casper, Wyo.	16.5	5.5	11.5
Cheyenne	14.5	5.5	11.0
Billings, Mont.	17.5	6.5	12.0
Butte	15.5	6.5	13.0
Great Falls	17.5	6.5	12.0
Helena	15.5	6.5	12.5
Salt Lake, Utah	16.0	5.5	14.0
Boise, Idaho	18.6	6.5	16.0
Twin Falls	21.6	6.5	16.5
Albu'que, N. M.	16.0	6.5	9.5
Roswell	14.0	7.0	8.0
Santa Fe	17.0	7.0	9.5

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
New Orleans, La.	14.25	16.75	8.5	†11.0
Baton Rouge	15.25	17.75	8.5	‡10.5
Alexandria	15.25	17.75	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.25	17.75	8.5	‡10.0
Shreveport	14.00	16.50	8.5	‡9.0
Knoxville, Tenn.	18.50	20.00	8.5	12.5
Memphis	16.50	18.00	8.5	11.0
Chattanooga	18.00	15.75	8.5	12.0
Nashville	17.50	16.50	8.5	11.0
Bristol	18.75	18.75	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO

	Gasoline		Kero.
	Tank wag.	Incl. tax	tank wag.
Texarkana, Ark.	13.5	5.5	6.0
Fort Smith	15.0	5.5	7.0
Little Rock	16.0	8.0	8.0
Muskogee, Okla.	13.5	5.5	7.0
Oklahoma City	11.5	5.5	6.5
Tulsa	12.5	5.5	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Omaha	17.0	15.9	6.5	9.0
McCook	17.5	14.4	6.5	9.5
Norfolk	17.5	14.9	6.5	9.9
North Platte	17.8	15.0	6.5	10.2
Scottsbluff	18.4	15.5	6.5	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Dallas, Tex.	11.5	15.5	5.5	6.0
Fort Worth	11.5	15.5	5.5	7.0
Houston	12.0	16.0	5.5	8.0
San Antonio	12.5	17.0	5.5	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline		Kero.
	Tank wag.	Incl. tax	tank wag.
Halifax, N. S.	24.5	10.0	18.0
St. John, N. B.	24.5	10.0	18.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	24.5	8.0	17.0
Hamilton, Ont.	24.5	8.0	17.0
Winnipeg, Man.	27.5	7.0	22.5
Brandon, Man.	28.0	7.0	22.5
Regina, Sask.	25.0	7.0	20.0
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.0
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	21.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of New Jersey made a reduction of 0.5 cent per gallon in tank-car and tank-wagon prices of regular and premium gasoline September 10 throughout Maryland, District of Columbia, Virginia, West Virginia, North Carolina and South Carolina, except at Wheeling, W. Va., where the dealer tank-wagon price was unchanged. The company reduced Atlantic City and Newark, N. J., prices 0.6 cent per gallon September 10.

Atlantic Refining Co. reduced the tank-car price on regular gasoline 0.5 cent at Erie, Pa., September 12.

Socony-Vacuum Oil Co., Inc., reduced the tank-wagon price 1 cent September 13 at Portland, Me., and reduced the price 0.5 cent September 9 at Manchester, N. H. The tank-wagon price was increased 1 cent September 20 at New Haven, Conn.

Standard Oil Co. of Louisiana reduced the kerosene dealer tank-wagon price 0.5 cent per gallon at Nashville, Tenn., September 10.

Standard Oil Co. of Ohio reduced the gasoline price 1 cent per gallon in the Cincinnati area September 20.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of September 24, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾
60-62 400 grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03⅞
60-62 400	.03½	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.04¾	.05
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)		.04¾
60 octane and below		.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)		.06
72-74 octane		.05¾

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.05½	.07¼
54-58 U. S. Motor	.05	.06¼

EAST COAST (domestic)—

U. S. Motor grades:		
New York (Bayonne)*	.04⅝	.06
Philadelphia	.05¼	.06½
Boston	.05¼	.06
Baltimore	.05½	.07
Charleston, S. C.	.05¾	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.03⅝	.04⅛
70-72 octane	.03⅞	.04
68-70 octane	.03¾	.04
65-67 octane	.03⅝	.04

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.02¼	.02½
Grade 18-55	.02½	.02¾

NORTH TEXAS—

Grade 26-70	.01¾	.02
Grade 18-55	.02	.02¼

CALIFORNIA—

75-85 375-390	.04½	.05¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.01⅞

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03⅞	.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅜	.04
41-43	.03¾	.03⅞

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03¾	.04

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

46	.04⅞	.05
45	.04¾	.04⅞

CHICAGO (Based on Group 3)—

42-44	.04	.04¼
41-43	.03⅞	.04⅛

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43		.048

GULF COAST (domestic)*—

41-43	.03⅞	.04

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03⅝	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 3 zero to 10, 28-32	.03⅛	.03¼

NORTH TEXAS—

No. 1 prime white, 38-42		03½
No. 1 straw, 38-40		.03⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03½

CHICAGO (Based on Group 3)—

Range oil	.03½	.03¾
No. 1 prime white, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03⅛	.03⅜

NEW YORK (Bayonne, N. J.)—

*No. 1		.048
*No. 2		.041
*No. 4		.041

Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02¾	.03
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5 low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial		.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.03
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.50	.55

PENNSYLVANIA (inland refineries)—

36-40		.04

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.65	.90
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03⅜	.03⅝
43-47 diesel	.03½	.03¾
48-52 diesel	.03½	.03¾
53-57 diesel	.03½	.03¾
58-and-above diesel	.03¾	.04
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.85	.90
Bunker C (bunkers)	.80	.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.041
28-30 diesel (lighterage 6¼c per bbl.)		1.70
28-30 diesel (tank cars)		.041
Bunker C (to ocean-going ships in N. Y. Harbor	1.15	1.25
Industrial fuel (tank cars)	.033	.0385

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.18
150-160 D, 0-10		.13½
150-160 D, 10-25		.13
100-110 D, 0-10		.13
100-110 D, 10-25		.12½
Steam refined:		
600 dark green (untreated)		.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point		.14½
15 pour point		.13½
25 pour point	.12	.13
Steam refined:		
600	.07	.08
650	.08	.09
600 flash	.09	.10
630 flash	.11	.12

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.08
180-3		.08½
200-3		.08½
250-3		.10
280-3		.10½
280-4		.10
300-3½		.11
350-3½		.11½
400-3½		.12
500-3½		.12½
600-3½		.13
100-2½ paraffin oil, 10-25		.05¼
10-25 pour point:		
200-3		.08
250-3		.09½
280-3		.10
280-4		.09½

GULF COAST—

Pale oils:		
100-3	.05½	.05¼
200-3	.07⅛	.07¼
300-3	.07⅛	.07⅜
500-3½	.08¼	.08½
750-3½	.08⅜	.08⅝
1,200-3½	.08⅜	.08⅞
2,000-4		.09
3,000-4		.10½
Red oils:		
200-5-6	.06⅞	.07
300-5-6	.07¼	.07½
500-5-6	.08	.08⅛
750	.08⅜	.08½
1,200-5-6	.08½	.08⅝

CALIFORNIA (moving to dom. market)

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis., at 70° F., 3 color, 400-405 flash.		
Zero pour point		.22½
10 pour point		.21½
15 pour point		.20½
25 pour point	.19	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.24½
10 pour point		.23½
15 pour point		.22½
25 pour point	.21	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.02½	.03

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.02½	.02¾
124-126 (A.m.p.) w.c. scale	.02½	.02¾

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0560
128-130 (A.m.p.) wax	.0560	.0570
130-132 (A.m.p.) wax		.0585
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.	.02¼	.02½
124-126 (A.m.p.) y.s.	.02¼	.02½
Petrolatum in barrels, carload lots:		
Dark green	.02125	.02625
Amber	.02375	.02875
Extra amber	.02625	.03000
Lily white	.04375	.05125
Snow white	.05125	.06000
Cream	.03375	.04125

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.03⅝	.04
60-62 400		.03¾
61-63 390	.03⅞	.04
64-66 375	.03⅞	.04

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06⅛
65-69 octane	.05⅝	.06¼
60-65 octane	.05¼	.05⅝

KEROSENE

GULF COAST—

41-43 water white		.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.15½	.16½
630 S.R. unfiltered	16½	.17½
600 flash, S.R.	.17½	.18½
650 flash, S.R.	.20	.21
Bright stock:		
Light, 25 pour point	.20½	.21

NEUTRAL OIL

200-3 color		.27
150-3 color	.25	.25½

PARAFFIN WAX

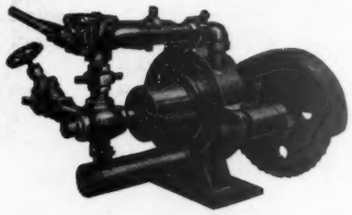
NEW YORK (prices per lb.)—

123-125 A.m.p.		.05600
125-127 A.m.p.		.05600
128-130 A.m.p.		.05850
133-135 A.m.p.		.06150
135-137 A.m.p.		.06400
Crude scale:		
124-126 w.s.	.02¼	.02½
124-126 y.s.	.02¼	.02½

EQUIPMENT PROGRESS...

New Gate-Closing Engine Speeds Operation of Control Gates

Shaffer Tool Works, Brea, Calif., is now furnishing a gate-closing engine for opening and closing Shaffer cellar control gates or for operating any type of gate



valve, master valve, or similar equipment with a speed never before possible. This engine is designed for steam operation but can be furnished to operate with water at slightly less acceleration. It will operate one or two gates.

The power mechanism of the Shaffer gate-closing engine consists of a turbine which is reversed by operating a three-way valve, and the speed of which is regulated by a governor valve. The turbine rotor shaft is connected through 4-to-1 speed-reducing sprockets and chain to a countershaft, and the drive is extended to the gate by lazy rods (torque tubes) which are coupled by Shaffer universal joints. This arrangement increases the power at the lazy rod four times that at the rotor shaft.

A 2-in. steam line from the boiler connects to a brass gate valve just ahead of the governor valve and thence to the three-way valve. The power device consists of a 16-in. diameter rotor with multiple vanes, enclosed in a steamtight housing. The perimeter of this housing is made into an annular space which can be compared with the steam chest of a steam engine. The annular space is divided into two circular pressure-tight compartments surrounding the rotor. Through multiple jets, set at the proper angle, the steam impinges upon the vanes of the rotor. One compartment, or steam chest, has the nozzles set to impel the rotor in one direction and the nozzles in the adjacent compartment impel the rotor in the opposite direction.

An impact lug near the axis of the driven sprocket engages a similar lug on the countershaft thus permitting four turns of the rotor shaft and practically one turn of the idler-driven sprocket on the countershaft before the lugs contact each other. The speed of the moving rotor at the end of the fourth revolution, or at the time the lug on the sprocket strikes the lug on the countershaft, creates sufficient impact to jar loose a set of tightly closed rams or enables the operator to hammer a gate to the closed position when conditions make closing difficult.

Improved Woven-Molded Brake Lining in Sheets

Facility in meeting widely varying dimensions in brake lining and clutch facings with a limited stock of material is afforded by improved woven-molded brake-lining sheets announced by the Gatke Corp., 228 North La Salle Street, Chicago. Gatke "Makablok," as this improved sheet stock has been named, is tightly woven of select long-fiber asbestos yarn and soft-alloy wire—saturated with a high-heat-resisting frictional compound by a special process—compressed to great density and surface ground to uniform thickness.

From a sheet of correct thickness, brake liners and clutch facings can be sawed quickly and accurately to the required size. The material readily conforms to any drum diameter and can be used for either internal or external-type brakes. It can also be used for cone type, as well as disk-clutch facings. Makablok is furnished in rolled sheets 20 in. wide by 5 ft. long in 1/8, 1/4, 1/16, 3/8 and 1/2-in. thicknesses.

Brewster Introduces New 12-In. Water-Well Rotary

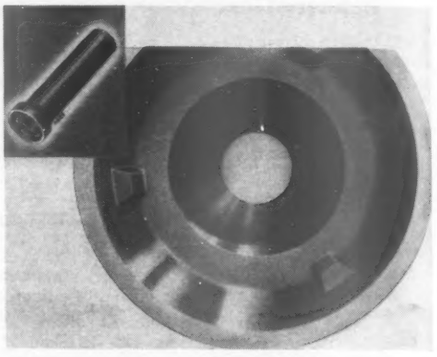
Although this small rotary has been designed for, and is considered water-well equipment, it is ideal for any shallow drilling, with strength and stamina to easily handle 2,500 ft. of 4-in. pipe. The overall length of this new Brewster rotary is only 55 in. and the extreme width of guard only 34 in. The skid width is 26 in. and overall height 15 in.

Alemite-lubricated roller bearings are used on the pinion shaft and enclosed in a housing that can be easily removed for replacements. The table has full

12-in. opening and turns on twenty-one 2-in. balls, Alemite lubricated. Gear-reduction ratio is 5.4:1. Electric steel is used in casting the bed and skids integral. The net weight of this water-well rotary is only 1,490 lb. Complete details and prices may be obtained from Brewster Co., Inc., Shreveport, La., manufacturer of oil-field equipment for more than 30 years.

Dickey Announces Improvement In Vitrified Clay Pipe

The W. S. Dickey Clay Manufacturing Co., Kansas City, Mo., announces a decided improvement in 4-in. and 6-in. vitrified salt-glazed acid-proof pipe. This is



known as "self-centering pipe." (See cut). This self-centering feature is obtained through the three lugs. Another added feature is the scoring of both the socket and spigot end, thereby insuring stronger and tighter joints. The 6-in. is made in 2½-ft. lengths as compared with the old type in 2-ft. lengths. Fewer joints mean a lower cost of installation and better construction.

In addition to manufacturing vitrified clay pipe (4 to 36-in.) this company also makes such materials as wall coping, drain tile, conduit pipe, flue lining, septic tanks, flashing blocks, and a new product, Skip-Pipe for high-speed drainage.

The Dickey company was founded in 1885, and have plants and offices in Kansas City and Deepwater, Mo.; Pittsburg, Kans.; San Antonio, Tex.; Texarkana, Tex.-Ark.; Birmingham, Ala.; Chattanooga, Tenn.; Atlanta, Ga., and New Orleans, La.

BUTLER MANUFACTURING MOVES INTO LARGER QUARTERS

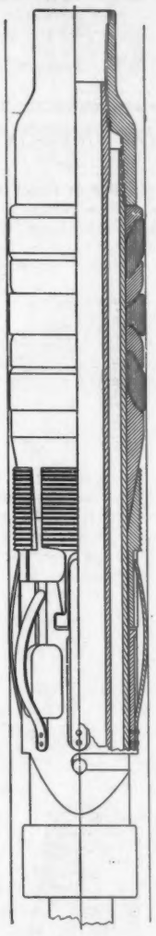
Another example of rapidly improving business conditions is exemplified by the expansion program just completed by the Butler Manufacturing Co. of Kansas City, Mo. In addition to the well-known line of oil equipment for the oil industry, including bolted and welded oil-field and refinery tanks, truck and trailer tanks for highway transportation, steel buildings and boulevard service stations, this company also manufactures steel and metal products for the dry-cleaning and farm industries.

To better handle rapidly increasing business, a large new building has recently been completed at its Kansas City plant. This new building, named by employes

"Norquist Laboratories," houses additional offices, the recently augmented engineering staff, a new laboratory, enlarged machine shop and shipping facilities.

Combination Packer Announced By Kibele Manufacturing Co.

A combination packer offering the supreme advantage of both a pressure-packed and a mechanical seal is the latest tool put on the market by the Kibele Manufacturing Co., Dallas, Tex. Through utilizing specially shaped Neoprene cups reinforced with fabric as packing devices, the Kibele combination packer exposes the lips (see illustration) to gas or fluid pressure above or below the tool while the cups are being expanded and set by mechanical means.



Therefore, any increase in gas or fluid pressure, instead of trying to channel past the packings, only makes them seal more tightly. This feature removes the necessity of resting the full load of the tubing on the packer in order to insure a seal.

Other advantages of the combination packer listed by the Kibele company are as follows: (1) The short, compact construction of the cups, supported by metal bowls, minimizes the hazard of "freezing" to the casing. (2) The extra-long slips used in connection with the Type M packer prevent wedging in the hole due to overloads.

The Kibele combination packer is furnished with or without valve depending upon whether packer is to be used in high or low-fluid-level wells.

Bantam Announces Fourth Expansion

Nearing completion are the office and factory additions of the Bantam Bearings Corp., South Bend, Ind. Officials of the company state that the new additions—the fourth in a 6-year period—are necessitated by the steadily increasing volume of quill, roller, and ball-bearing sales, and indicate a healthy growth in sales activity. About one-third more floor space will be added to present factory area to accommodate the new equipment and facilities. The factory and office additions will be ready in about 60 days, it was stated. Space now occupied by offices will become the new physical and metallurgical laboratories, appreciably augmenting the facilities and equipment of Bantam's present laboratory. The new offices are to be air-conditioned and modern in every detail.

TRADE LITERATURE

GAS TORPEDO WELL CLEANING CO., Box 1531, Alice, Tex.—Circular describing a new well-cleaning service offered producers in North, West and Southwest Texas. The process is the Gay-Thornton, which utilizes compressed gases to clean screened wells and open holes.

OHMITE MANUFACTURING CO., 4835-55 West Flournoy Street, Chicago.—Complete catalog of fixed and adjustable resistors, precision resistors, R.F. chokes and R.F. attenuators, rheostats, tap switches; also a manual of resistance measurements and reference tables.

OAKITE PRODUCTS, INC., 57 Thames Street, New York.—July-August issue of Oakite News Service in which is described how storage tanks can be safely and economically cleaned and converted from crude or fuel-oil service to gasoline or other light fractions.

GRAVER TANK & MANUFACTURING CO., INC., East Chicago, Ind.—Bulletin C-100, a 32-page pamphlet on conservation of gasoline with Graver conservation equipment, dealing with evaporation, breathing and filling losses.

UNITED STATES STEEL, Pittsburgh, Pa.—52-page handbook on U.S.S. stainless and heat-resisting steel for the petroleum industry, issued by Carnegie-Illinois Steel Corp., American Steel & Wire Co., Columbia Steel Co. and National Tube Co., all subsidiaries of U.S.S. In addition to discussing the wide range of both hot and cold-end applications of the various types of stainless and heat-resisting steels in the petroleum industry, laboratory and field experience is summarized. Copies are available from any of the above companies.

ALLIS-CHALMERS MANUFACTURING CO., Texrope Division, Milwaukee, Wis.—16-page revised edition of Bulletin B-6051-A giving facts and data essential in estimating costs, types and sizes of V-belt-drive equipment. Complete information is also given on cast-iron adjustable and Vari-Pitch sheaves.

LINK-BELT CO., 307 North Michigan Avenue, Chicago. Book 1519-A giving up-to-date information on the complete line of herringbone gear reducers, in which revisions in both horsepower ratings and dimensions have been made.

MEEHANITE RESEARCH INSTITUTE OF AMERICA, INC., 311 Ross Street, Pittsburgh, Pa.—New edition of Bulletin 9, "Meehanite, the Metal for Machine Tool Castings." Descriptions of a variety of applications of Meehanite castings in the machine-tool industry are illustrated and described.

NORTON CO., Worcester, Mass.—24-page booklet, "Norton Metal Bonded Diamond Wheels," discussing the uses and applications of the wheels and serving as a handbook on reconditioning and sharpening single-point cemented carbide tools rapidly and economically.

MANHATTAN RUBBER MFG. DIVISION, Passaic, N. J.—Bulletin No. 6878, describing the new V.D.B. (vibration dampener bushing) resilient mounting now being built into Manhattan wheels for portable grinders.

AJAX FLEXIBLE COUPLING CO., Westfield, N. Y. —20-page data book giving complete data on horsepower and torque ratings as well as dimensional specifications on the complete line of forged steel and cast-iron couplings, including conventional and shear-pin types.

B. F. GOODRICH CO., Akron, Ohio.—New booklet for the tire retreading and recapping trade, showing die sizes and curing schedules for "Camelback"—the humped rubber strips used in the retreading process.

BUTLER MANUFACTURING CO., Thirteenth and Eastern Avenue., Kansas City, Mo.—"Vision and Progress," a new institutional booklet describing the organization, history of the company and a description of its products.

GOODALL RUBBER CO., 5 South Thirty-sixth Street, Philadelphia, Pa.—Catalog No. 207 dealing with its general line of mechanical rubber and designed to be of particular value to the construction and petroleum engineer. Address Dept. M.

Goodall Offers Leakproof Rotary Hose Coupling

The "Barney" coupling, made by Goodall Rubber Co. of Texas, 1606-A Maury Street, Houston, is a stemless, clampless, leakproof rotary hose coupling for oil-well drilling at all depths. Patent 2122126, issued in 1937, covers the following features which, according to the manufacturer, eliminate the necessity of buying new couplings when replacing the hose. No part of the coupling touches the slush. A removable hydraulic nipple takes all the wear between hose and standpipe. This nipple is easily replaced when changing the hose. The built-in coupling is designed to be 100 per cent salvageable for reuse in new lengths of hose. Its design also eliminates strain on the hose at the ends.

The "Barney" coupling is available only in Goodall "Long Life" rotary hose, each length of which, with couplings, is tested before delivery at 1,500-lb. pressure for 3 minutes.

New Sound Slide Film Shows Designing of Steel Castings

The Steel Founders Society of America has for many years served as a clearing house for information and ideas on the designing of steel castings. Probably at no other place has so much information on this important subject been accumulated. Their correspondence contained so many requests for detailed information that the society has prepared a sound slide film, to explain all the known and tested principles of steel casting design. The film runs ½ hour, and is entertaining as well as educational.

The various principles of design are simply and clearly brought out. The highly technical subject is treated in an informal, interesting manner, making it easily understood even by those without technical education. The new film is available for showing before local chapters of engineering societies. Sound and projection equipment can also be supplied without charge. Requests for bookings should be addressed to Steel Founders Society of America, 920 Midland Building, Cleveland, Ohio, on the West Coast, to George Kennard, Northern California Foundrymen's Institute, 304 Rialto Building, San Francisco, Calif.

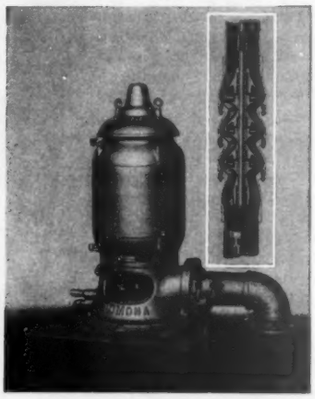
JADSON NAME CHANGED TO THOMPSON PRODUCTS, INC.

Notices have recently been sent to the trade announcing that the name of Jadson Motor Products Co., has been changed to Thompson Products, Inc. According to P. D. Hileman, general manager of the West Coast plant, this change is merely a legal procedure in no way affecting the personnel, policies, or products.

The plant of Thompson Products, Inc., at 8354 Wilcox Avenue, Bell, Calif., occupies a 3-acre tract where three shifts daily are constantly employed in most of the departments. The company manufactures a complete line of poppet valves designed for all sizes of internal-combustion engines from small midget racing cars to the largest motorships. Also being developed is a new line of fuel and booster pumps which have been approved by the U. S. Government and adopted by both the Army and Navy Air Corps. The recent addition of $150,000 worth of new machinery, thread grinders, and electric gathering machines, equips this manufacturer to meet the valve requirements of a wide variety of engines in oil-industry service.

Pomona Redesigns 6-In. Line Of Vertical Turbine Pumps

The Pomona Pump Co., 610 East Commercial Street, Pomona, Calif., announces the complete redesign of its line of 6-in. medium capacity vertical turbine pumps.



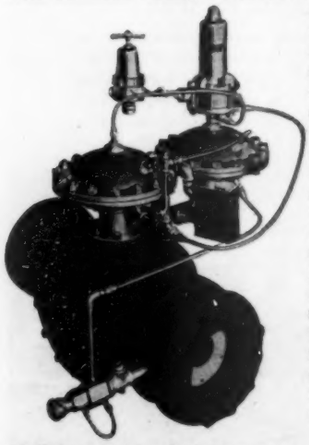
As a result of improved engineering practice, particularly in the newly designed impellers and seats, the manufacturer states that the new models afford higher efficiency and better performance, resulting in lower cost for the user.

For a desired capacity of 100 g.p.m. against 110-ft. lift in a well and 50-lb. pressure above, a 7½-hp. motor is required, as against a 10-hp. motor with the old model. The efficiency of this particular size pump for this head capacity has been increased 6½ points, the number of stages has been reduced one-fourth and, finally, the initial cost of the entire unit has been lowered 20 per cent.

Other advantages of these pumps, making for extremely low operating costs, lie in the facts that they are water-lubricated, with no stuffing box below ground level; that the specially designed semiopen impeller can be adjusted from the surface for wear and for changing capacity; and that they are non-sand locking and non-gas locking. Constructed of high-quality bronze, the Pomona semiopen impellers operate in a cone-shaped seat in the pump bowls. Correct curvature of the impeller vanes assures maximum lifting capacity and prevents overloading of motor regardless of changes in water level.

Automatic Loading for EMCO Balanced Valve Regulators

Pittsburgh Equitable Meter Co., of Pittsburgh, Pa., has announced the availability of a system which provides automatic loading for EMCO high-pressure balanced valve regulators controlling outlet pressures in excess of 1 lb. In this system, the main regulator is of the standard EMCO high-pressure balanced valve design, fitted with a standard pilot loading head. To provide automatic loading (or boost), an orifice plate is used, set at the outlet of the main regulator.



As the flow rate increases through this regulator, the pressure differential increases across this orifice plate with the square of the velocity. This differential pressure is led by means of piping to a differential diaphragm head. This diaphragm head has mounted on it an EMCO Type 39 pilot loading regulator, so connected to the differential boosting head that as the differential pressure across this head increases, the pilot loading regulator diaphragm is more heavily loaded. This has the same effect as increasing the control spring loading. Thus with increasing flow rate, the orifice differential increases, which in turn increases the loading on the differential boosting head. This results in an increased loading of the base pressure pilot regulator and, of course, raises the outlet pressure. To provide a maximum limit as a safety (i.e., a point beyond which the regulator cannot boost the pressure), an EMCO Type PR pilot loading regulator is set in series ahead of this Type 39 pilot loading regulator.

The manufacturer calls particular attention to the fact that separate assemblies are used to make up the component parts in this system of loading. It is claimed that by using separate assemblies for the various parts, it is made possible to adapt the new automatic loading system to existing regulators; also to EMCO regulators now equipped with pilot loading heads. The actual arrangement of the parts can be varied so as to provide the most accessible and convenient installation or to conform with the dimensions of any vault or regulator house.

BETHLEHEM PUMPING UNITS EMBODY IMPROVEMENTS

Bethlehem Supply Co. has recently brought out a series of pumping units embodying several notable improvements. A few important characteristics of these units are presented in the following table:

Type—	Peak torque A.P.I. at 20 s.p.m. in lb.	Hp. A.P.I. at 20 s.p.m.	Walking beam capacity A.P.I., lb.	Length of strokes, in.
24-DT-5	24,100	4.2	5,000	17, 19, 22, 26
36-DTA-7	35,500	7.2	7,400	22, 28, 32
51-DT-10	51,100	10.3	10,450	26, 34, 42
51-DT-10RB	51,100	10.3	10,450	26, 34, 42
84-DT-12	84,300	17	12,700	28, 38, 48
84-DT-12-L	84,300	17	12,600	28, 38, 48
123-DT-14	123,000	24.8	14,230	24, 34, 44, 54
123-DT-14-L	123,000	24.8	14,750	24, 34, 44, 54
174-DT-14	174,000	35.2	14,230	24, 34, 44, 54
174-DT-14-L	174,000	35.2	14,750	24, 34, 44, 54
174-DT-19	174,000	35.2	19,100	24, 34, 44, 54, 64
174-DT-19-L	174,000	35.2	18,260	24, 34, 44, 54, 64

With A.P.I. horsepower rating ranging from 5 to 35, this new line of units is expected to meet practically all load requirements for well-pumping equipment. The units have sturdy, rigid framework, all welded electrically. Samson posts are removable on the larger types. No welds are made at critically stressed sections on the walking beams and all bolts are locked with double nuts.

True alignment is stressed in the construction of all the units. All connecting parts at the saddle are machined and electric welding is scientifically controlled. On the larger units the horse heads have self-aligning ball-and-socket connections to walking beams while the equalizer assembly features a double-tapered equalizing bearing to assure equalization of twin pitman loads.

A wide range of stroke lengths is possible with each unit. Adjustments are made on the smaller units by moving equalizer assembly along walking beam whereas the stroke lengths for the larger-type units are controlled at the cranks.

All the gears in the gear-reduction boxes are cut from special heat-treated steel forgings. The large-diameter shafts assure longer life of the gears, shafts, and bearings due to the minimum amount of deflection thus afforded. The diameter of the shaft used on the Type 123-DT unit is 9 in. at the center, the largest ever used in a unit gear reducer with this peak torque rating. All ratings are A.P.I. based on minimum hardness of the gears.

The gear case is interesting in design. The upper half has troughs along the sides into which the oil is diverted from the gears by means of wipers. From these troughs the oil is introduced into the outer portion of the bearings of all shafts whence it flows back through the bearings and is returned to the lower case. A settling chamber in the lower half of the case separates out any water condensation or foreign matter.

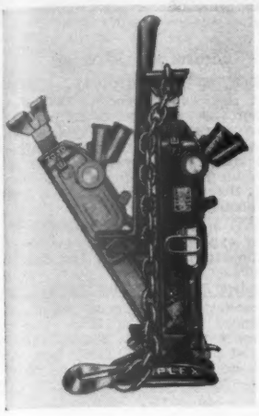
Rubber-mounted connections have been incorporated at the equalizer on the 5-hp. and 7-hp. units for full protection from sudden well shocks or impulses. Both up and down movements of the walking beam are rubber cushioned with rubber pads of large bearing area.

Counterbalancing is of the beam-balance type for the smaller units whereas full rotary balance is employed on the larger-type units. The regular 10-hp. unit uses a combination of both types of counterbalances. Weights are quickly added or removed on the full rotary-balance type units by loosening crank bolts to release interlocking lugs on the leaf weights.

Except in the gear reducer, pressure lubrication is used throughout. Tail bearings, beam-hanger bearings, and saddle bearings are all centrally lubricated from the top of the samson post. All of the units are manufactured complete at the Tulsa plant of the Bethlehem Supply Co.

New Heavy-Duty 20-Ton Emergency Jack

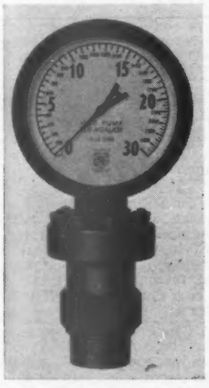
To meet the need for an emergency jack for use in the heavy industries, Templeton, Kenly & Co., Chicago, have introduced a model that has a full 20-ton lifting and holding capacity on either the cap or toe lift of the jack. Designated No. 2030, this jack is 30 in. high, has a full 17¾-in. lift, and weighs 167 lb. with complete equipment. Besides lifting on cap and toe, it lifts on the auxiliary shoe which hooks into the cap or on the chain with grab-hook end, any link of which can be engaged with the recess in the cap.



Besides lifting and lowering vertically, this jack tilts on its base for jacking at an angle. The tilting pawl can be released by the operator's toe. The No. 2030 can be used horizontally for pushing, spreading, or pulling by using the chain. This jack is recommended for mines, skidding rigs, mills, and utility, construction and engineering projects where heavy machinery is used and where emergencies arise that demand the use of a heavy-duty jack.

Ashcroft Announces New Mud-Pump Gage

A new mud-pump Duragauge for the oil fields has been announced by Ashcroft Gauge Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn. This new gage is made with a fluid-filled system and with noncorrosive stainless steel bulb. No mud or water can get into the gage mechanism.



It is easy to read. Made with a suppressed scale, with open readings over the entire working range. The case is moistureproof and dustproof. It has a nonbreakable front. It has a 2-in. male bottom connection for screwing directly on the pipe line. The heavy, steel bottom part may be removed for cleaning out, if necessary, without affecting the gage itself. It is not affected by vibration nor changes in temperature. It is as accurate in zero weather as at 100° F. Accuracy guaranteed to within 1 per cent of the scale range. Standard ranges: 0 to 1,500, 0 to 3,000, and 0 to 5,000 lb.

California Nomad Chapter Holds Barbecue

Inaugurating what is destined to be first of regular annual barbecues, nearly 250 Nomads and guests gathered at Barneson Park in Brea Canyon, Calif., September 11. Practically every member of the California Nomad chapter was in attendance with one or more guests. In addition, 96 oil men, who have seen service in foreign oil fields or who are at present actively engaged in foreign oil-field work, enjoyed the Nomads' hospitality.

Brain child of moving spirits in the chapter, the party was made an outstanding success through the capable work of the various committeemen. Chairman of the entertainment committee, Ernie Fowks, assisted by Tom Murphy, Henry W. Pullman, Bill Bettis, and Hi Cassidy, provided food, drink, and divertisement voted as "tops" by all present. To C. Gravett, who personally supervised barbecuing, goes credit for a big job well done.

A portable radio offered as a gate prize to all foreign guests went to J. P. (Jack) Schoessiin. Nine additional prizes offered to winners of the various games were awarded as follows: First, L. C. Nielson; second, Cecil Winslow; third, Frank (Poncho) Knox; fourth, C. B. Newton; fifth, Whitey Paddock; sixth, Ralph Johnston; seventh, B. T. (Buck) Weaver; eighth, Frank O'Neil, and ninth, Walt Hanline.

According to Mr. Sutter, plans for the next regular meeting of the Nomads to be held October 9, will be released in the near future. It is expected that several prominent foreign operators will be in attendance and discuss conditions in their particular section at this meeting.

Nut Has New Locking Principle

A locking nut that can be tightened up or backed off part way, years after its application, and still retain its grip on the bolt, is made by Security Metal Products, Inc., 338 East Kalamazoo Avenue, Kalamazoo, Mich. The bolt-gripping element of the Security nut consists of a slightly elliptical shaped spring-steel retainer seated in the head of a standard nut.

When the nut is applied the retainer is distorted from an elliptical into a circular shape, thus setting up a powerful spring pressure between the bolt threads and the retainer threads. Neither the threads of the bolt nor of the retainer are injured when applying or removing. Thus nut is started on the bolt with the fingers, just like a common nut, and a wrench is used when the threads of the retainer start to engage the threads on the bolt.

AMONG EQUIPMENT MEN...

Eastman Opens Division Office at Casper, Wyo.

The Eastman Oil Well Survey Corp., Dallas, Tex., and Los Angeles, Calif., officials announce the establishment of a new division office for the Rocky Mountain states at 355 C-Y Avenue, Casper, Wyo. C. S. Meece has been appointed division manager. The personnel chosen to extend oil-well surveying and controlled directional drilling services to this division are from the California and Mid-Continent areas where they have had extensive experience. Removable and casing whipstocks, knuckle joints, directional bits and reamers, single-shot instruments, drift indicators, etc., are now available at Casper.

Mellon Transfers Petrolite Offices to Houston, Tex.

W. K. Mellon, vice president of Petrolite Corp., announces the transfer of his headquarters from the company's offices in Los Angeles to the Gulf Coast division offices at Houston, Tex. From this point he will supervise all Petroleum Rectifying Co. of California operations in the eastern and Gulf Coast divisions, including the district offices at Houston and Toledo, Ohio.

Mr. Mellon enjoys a large personal acquaintance among producers and refiners throughout the country. He first became connected with Petroleum Rectifying in 1919, opening the Houston branch, and pioneering in early dehydration work. Removing to Los Angeles in 1929, he was California district manager for a number of years, and in 1937 was elected vice president of the company, in which capacity he was in charge of company operations, traveling throughout the wide territory served by Petreco.

As during the past few years, Mr. Mellon will spend a good portion of his time in direct contact with operators throughout the various producing and refining centers, as well as at the company's offices in Los Angeles, Houston, and Toledo.

Jerry Faubion New Louisiana Representative for McEvoy

The McEvoy Co., Houston, Tex., has announced the appointment of Jerry T. Faubion as sales and service representative around New Iberia, La. A graduate of Texas A. & M. College, Mr. Faubion is well qualified both in training and experience for his position. He was previously associated with the United Gas Co. and Sinclair Refining Co. Mr. Faubion is located at 229 West Main Street, New Iberia, La.

Pete Wallace of Link-Belt Visits South American Fields

Fred (Pete) Wallace, oil industry manager for Link-Belt Co., with headquarters in Houston, Tex., left Miami, Fla., September 19, via Pan American Clipper, for a 2-months' tour of active fields in Colombia, Venezuela, and Trinidad in the interest of Link-Belt oil-country chains and vibrating screens. This is his second trip into South American countries, having made an extended tour late in 1939. He plans returning to the United States in time for the A.P.I. meeting, Chicago.

Willard Joins Graver

S. X. Willard, formerly sales manager of Econo-Vent Corp., Chicago, has recently become associated with Graver Tank & Manufacturing Co., Inc., East Chicago, Ind., in the capacity of conservation engineer. Mr. Willard has been actively associated with the oil industry for the past 25 years, and at one time was engaged in the wholesale marketing of petroleum products in the Middle West and purchasing of crude oil on the West Coast. In his new connection, Mr. Willard will devote his time to the introduction and sale of conservation equipment, developed by Graver after extensive research and study of petroleum-conservation problems, and will make his headquarters at the company's Chicago office, 332 South Michigan Avenue.

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Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

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A complete SERVICE. EXPERTS in every department of the Oil Business at your SERVICE; a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
Santa Fe, New Mexico

SPECIALIZED Geophysical investigations conducted for petroleum promise. In touch with many opportunities to and for development of drilling blocks. P. O. Box 364, Fort Worth, Texas.

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, also tracts of proven Fluorspar and zinc deposits. Reports on request. W. P. HARLEY, Bowling Green, Kentucky.

CRANE-WARD County 20 ac. cheap in fee, under Magnolia lease. J. G. SMITH, 215 Littlefield Bldg., Austin, Texas.

NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

EAST TEXAS Trinity sand wildcat starting. Close in leases afford you ten to fifty for one bets next sixty days. E. CROFT, PROCTOR, TEXAS.

SEMI-PROVEN acreage, Yoakum Co., Texas, 10 yr. oil and gas lease for sale on S. Half Sec. 596 at $60 per acre. Dr. J. A. Robinson, Veterans' Adm. Facility, North Little Rock, Arkansas.

OPERATORS: I have several blocks leases Huerfano County, Colo., new oil field for drilling 1,500 to 3,500 feet to production for interest and bottom-hole money. S. W. Pressey, Box 614, Pueblo, Colo.

WELL LOGS, Drillers' logs of approximately 4,000 wells drilled in New Mexico are available from Well Log Division, New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico. Write for price list C.

LEASE for Oil and Gas. 200 acres in Sec. 64, McMullen Co. and 480 acres in Sec. 340, Coke Co. Texas, and 160 acres in Sec. 15, Tp. 16s, SR. 15e, in Plaquemines Parish, La. (Also for trapping.) Owner J. Manz, Rt. 2, Goddard, Kan.

20,000 Texas acres on visable structure with surface indications; geological sketch free; will lease. Arthur Nickell, Fayette, Missouri.

Leases and Drilling Blocks

BIG NEW MEXICO STATE
LEASE SALE
Oil and Gas Rights, 10 year term, 5c per acre annual rental. $15.00 per forty, regardless of location. No middle man to pay; no salesman to bother you. Buy direct and save those dollars. Write for list.
HARRY S. WRIGHT
New Mexico State Lessee
Wright Bldg., Farmington, New Mexico.

FOR DRILLING—270 acres in NE corner Bienville, Parish, La. Gas and distillate found on all sides.
MRS. FLORENCE K. PATTERSON
321 Cornell Avenue
Baton Rouge, La.

FOR 50c per acre will lease to right party 7/8 of gas and oil from following tracts in Cass County, near Edwardsburg, Michigan. All 2 to 4 miles of producing wells. 23, 40, and 7 acres 10 miles northeast of Notre Dame; 17 and 80 acres 11 miles northeast of Notre Dame. L. E. Pearson Lumber Company, Box 516, South Bend, Indiana.

NEW Montgomery County Illinois Field—We own six farms totaling 1400 acres in Zanesville, North and South Litchfield townships. Will lease or sell royalty. This land within mile of rotary rig sponsored by three majors and part near Waggoner field now in production. Wire or write
M. J. BUSCHER & SON
Litchfield, Ill.

CRANE CO., oil possibilities, cheap fee land, 3 mi. E Ward Gulf-Western drilling. J. G. SMITH, 215 Littlefield Building, Austin, Texas.

EAST Texas oil leases. $2.00 acre. Near test and large Co. holdings. L. Lahm. 2931 Missouri Ave., St. Louis, Missouri.

Legal Blanks

BURKHART'S legal blanks and general forms serving Mid-Cont. oil field since 1908—Okla. Kans. N. Mex. Tex. Ala. Ark. Fla. Ga. Ill. Ind. Ky. La. Mich. Miss. Mo. Neb. N. Dak. Tenn, Wyo. Free catalog samples on request. Burkhart Ptg. & Sta. Co. 115 S. Cinn. Tulsa, Oklahoma.

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REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, California.

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ANDREW J. BARRETT
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Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

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Financing

JOHN MORRIS, Box 5411, Philadelphia, studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

Situations Wanted

REFINERY EXECUTIVE thoroughly trained and experienced in design construction and operation of refineries and the manufacture of all products. Efficient, energetic, diplomatic. Desires permanent connection or design construction and operation on partnership basis. Now employed. Box K-675, The Oil and Gas Journal, Tulsa, Oklahoma.

YOUNG man with gasoline plant and refining experience desires new position. Versatile and dependable. Box 212, Van Horn, Texas.

INDUSTRIAL relations manager desires connection with good organization, experienced in settling labor problems. 16 years' experience in the oil industry. Employed but desire change. Box K-781, The Oil and Gas Journal, Tulsa, Okla.

YOUNG man, now employed—14 years' experience pipe line and crude oil accounting, desire change. Executive ability, capable of installing and supervising department. Box K-795, The Oil and Gas Journal, Tulsa, Okla.

PRODUCTION Superintendent — High class practical man, background of several years with one major company. Well rounded experience in rotary and cable-tool drilling and production. Address Box K-793, The Oil and Gas Journal, Tulsa.

COLLEGE man twelve years' experience at leasing development, engineering, and production of oil and gas. Experience includes gas lift, repressuring, pumping wells, and the production and transmission of natural gas.
BOX 428
VIVIAN, LA.

OIL ACCOUNTANT, 17 yrs.' experience drilling, production, refining, Federal-state-SS taxation, desires new connection with progressive firm. Address Box K-791, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

DESIRE to contact rotary drillers who worked in Wyoming prior to 1929. Address P. O. Box 2603, Tulsa, Oklahoma.

SALESMAN: With following, for industrial and cutting oils Metropolitan New York and New Jersey. Drawing account and liberal commission. Reply confidential. This independent not major company. Box K-790, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED—3 field salesmen 35 to 55 years in age for selling new line of valves. Must have tact, diplomacy and following in field, engineering preferable but not necessary. State past record. No drunks, reformed drunks, party men or men who misrepresent facts considered. All correspondence confidential. 115 Northwood, Houston, Texas.

SALESMAN by Seamless Tube and Pipe mill. 30 years or younger. Technical college training preferred with some steel product sales experience. Supply full particulars, experience and training by letter in own hand writing, with recent photograph, to Box K-794, The Oil and Gas Journal, Tulsa, Okla.

Geophysical Service

HOMER L. FITCH, GEOPHYSICIST AND LOCATION ENGINEER
WHY drill dry holes? Our method only locates structures which contain oil or gas. Locations made by us will produce or no pay. Drawer 711, Brownsville, Texas.

MAJORS — INDEPENDENTS — WILDCATTERS—When you drill for Oil and Gas wouldn't you like to be sure? The Gravitational Selector works quickly, scientifically, satisfactorily or there is no charge. If you are satisfied pay us from production. Regardless of how you have located your wells heretofore we believe we can give you additional safeguards ahead of the drill. For particulars write Gravitational Selector, 14957 Lakewood Heights Boulevard, Lakewood, Ohio.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

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1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

ONE 7' x 12' two-door steel tool house. One 4-in-line roller bearing crown block with 36" maganese steel sheaves on 20" beams. A-1 shape. 1300 Ramsey Tower, Oklahoma City, Oklahoma.

FOR SALE

One gasoline drilling rig with two 85 H.P. Waukesha motors and unitized draw works complete.

10,000 Ft. 2⅛" seamless tubing, used in flowing wells only.

10,000 Ft. 7" O.D. 26# seamless casing, once run.

15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.

In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.

Wire, Write or Phone for Prices.

Louisiana Iron & Supply Co.
Shreveport, La.

FOR SALE
PRACTICALLY NEW 3½" DRILL PIPE
Drilled only 250 feet
3,750 feet 13.30 lb. Grade D, Pittsburgh Special, Internal Upset, with Reed Full Hole Tool Joints, Used by Morter Drilling Company of Ardmore to drill in only four wells approximately 50 feet each. Located at Me-Tex Supply Company, Hobbs, New Mexico.
LUCEY PRODUCTS CORPORATION—TULSA

BIG WAUKESHA ENGINES AT A BARGAIN

Several new and slightly used Waukesha WKU and WOKU Engines of 100 and 150 H.P., bought for models we have discontinued.

Also one new Reeves Speed Reduction, Model 3B, at a bargain.

Real Savings for Quick Inventory Reduction.

THE JAEGER MACHINE CO.
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25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

SPECIAL OFFERING—PUMPS—ALL SIZES AND TYPES

- Simplex and Duplex Steam Driven Pumps
- Centrifugal Motor and Turbine Driven
- Jerker Type Pumps

ALL THOROUGHLY OVERHAULED AND IN A-1 CONDITION

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W. C. Berry and H. J. Galamba
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Robt. W. Duden
2100 S. Union, Tulsa, Oklahoma

FOR SALE—LATE TYPE OIL WELL STEAM SUPERHEATER GENERATOR POWER RIG, Complete with 6,000' drill pipe full hole, 7¼x18 Wilson-Snyder power pump, 27½ oil bath Union tool table, 122' derrick—everything latest type. Address Box 239, Abilene, Texas.

REFINERY PRICED FOR QUICK DISPOSAL. 500-barrel topping plant well equipped located Farmington, New Mexico. AMERICAN INDIAN OIL & REFG. CO., Farmington, N. Mex.

FOR SALE—A BARGAIN
New or slightly used Lee C. Moore type 9900 Double Drum Spudder and Portable Draw Works. In good condition. Machine capable of cleaning out with cable tools to depths of 6000 ft. Equipped with HXE Hercules Engine.
LEE C. MOORE & COMPANY, INC.
Tulsa, Oklahoma

FOR SALE—Cable-tool drilling outfit complete with steel derrick, 120 HP Clark drilling engine, no tools. Capable drilling 5,000 feet. Located in Young County, Tex.

Wilson Spudding and clean-out unit complete with all tools, light plant, steel doghouse and mast. Located in Pottawatomie County, Oklahoma. Address Box 1098, Shawnee, Okla.

TRACTORS
Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750 Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

CLEVELAND TRENCHER Model 110 powered by Hercules motor. Capacity 10" and 24" wide, 5½' deep. Entire machine recently overhauled and in very good condition. Lowboy and stripping shoe included. 4212 Marquette, Houston, Texas.

MODERN BUILDING for SALE at NOCONA, TEXAS

Ideal building for oil-field use. Thoroughly modern, with 7,800 square feet floor space. One story, constructed of brick and reinforced concrete. Foundation designed to carry four floors. Well lighted and ventilated, steel casements. Steam heating system. Located on highway, main paved street close to heart of town. Railroad spur within one block, available for extension to rear loading dock. Title clear. *Priced to sell.* For full particulars write H. J. Justin & Sons, Inc., Fort Worth, Tex.

FOR SALE 70 HP Oilfield type boiler in good condition. Box K-792, The Oil and Gas Journal, Tulsa, Okla.

Equipment Wanted

WANTED: A Cracking Unit between 300 and 700 barrel capacity. Address—Cracking Unit, Box 1281, Tulsa, Okla.

Investment Wanted

AN INVESTMENT OPPORTUNITY OR MANUFACTURER to distribute new radically different drill bit proved 25% to 65% more efficient than the fish tail. Investigate or send representative for detail. Kless, 414 Stratford, Houston, Tex.

Ranches—Farm Lands

278,000-A. New Mexico Ranch, valleys & mountains, year-round pasture for cattle & sheep, highly improved; superb hunting & fishing—America's most magnificent ranch at a bargain. Howard Ingram, Perrine Bldg., Oklahoma City, Oklahoma.

For Sale—Maps

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

1940 OIL AND GAS FIELD MAP
Texas, Eastern New M. Price $1.00.
Wildcat Map $3.00 Published monthly.
ZINGERY OIL MAP CO., Fort Worth, Tex

Warehouse Facilities

WAREHOUSE space, 1500 feet or part, with desk, phone and shipping service. Southwest Equipment Co., Dallas, Texas.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

New York Markets

(Continued from Page 111)

ported made at 11 cents for 25 pour. One refiner expressed the belief that the future would witness larger supplies of the better-priced neutral being offered since the statement was made at the National Petroleum Association meeting in Atlantic City last week that it is possible to manufacture neutrals from bright stock. Neutral oil in the Pennsylvania market remains comparatively firm.

The wax market, which enjoyed a spurt in demand in late August and early September with an improvement in prices for crude-scale grades, has lapsed since then. The crude-scale market is reported continued firm with the lowest offerings reported at 2⅛ cents and the majority of suppliers quoting 2¼ cents minimum and 2½ cents maximum. Fully refined grades, however, are unchanged, ranging from 5.6 cents for 123-5 A.m.p. to 6.4 for 135-7 A.m.p. grades, both in the domestic and export markets.

Another product which remains unchanged but which is apparently weak is Bunker C fuel oil. Major suppliers are maintaining their quotations at $1.25 per barrel despite the fact that supplies are reported available from smaller suppliers at $1.15 and have been available at that price for some time. Suppliers here are reported eyeing the Gulf Coast market to determine which direction heavy fuel will take in the near future.

Gulf Coast Markets

(Continued from Page 111)

tations at levels that have existed for several weeks. There were no sizable inquiries for gasolines during the week.

Kerosene also continued inactive but a firmer tone was felt. Quotations were unchanged.

There has been modest improvement in the coastwise shipment of winter-grade motor fuel, particularly from the Corpus Christi district. The current business, however, is covered by previous contracts and eases only moderately pressure on the spot market.

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the September 5 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.15
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	1.85

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast, Texas
14-14.9	$0.65	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65	....	....
19-19.9	.69	....	$0.86
20-20.9	.72	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

*Effective Feb. 1, 1940.

Crude-Oil Price Changes

Root Petroleum Co. posted a reduction of 10 cents per barrel on South Arkansas crude, effective September 15. For Nick Springs, Urbana, Champagnolle, Rainbow (south field) and Schuler (Morgan sand) the new schedule is 95 cents for 40-gravity and above with a 2-cent differential for each degree in gravity down to 63 cents for 25-gravity and below. For sour crudes from Magnolia, Schuler (Jones sand) and Schuler (Reynolds lime) the new price is 10 cents below the above schedule.

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